

NATURE'S
YOUNG
NATURALIST'S

HUMMING
BIRDS.

Presented by
Miss Sarah Hewitt
Dec. 1922

Sally Hunter
Kearas Help

598.2
A211h

Humming-Birds.

Adams, Henry Gardiner, 1811 or 12-1881.

Humming birds, described and illustrated; by H. G. Adams ... With eight coloured plates. London, Groombridge and sons [1856] 1867
2 vols., 144 p. illus., viii col. pl. (incl. front.) 18^f em.
^{7c}

1. Humming-birds.

Library of Congress

6—36998
QL696.T6A4
[a20cl]

598.2
A21h

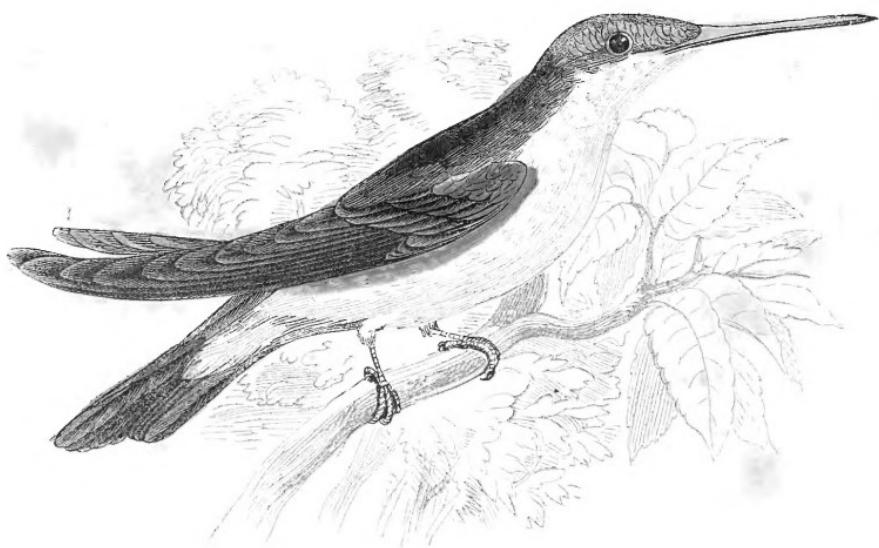
Adams, H.C.
^(S) Humming Birds. 1867.

148132538

63 148

Pres. by Miss S.C. Hewitt. Dec. 1922

144



1. Sooty-crowned.

2. White-capped.

HUMMING BIRDS,

DESCRIBED AND ILLUSTRATED;

WITH AN

INTRODUCTORY SKETCH

OF THEIR

STRUCTURE, PLUMAGE, HAUNTS, HABITS, ETC.

BY H. G. ADAMS,

*Author of "Nests and Eggs of Familiar British Birds," "Beautiful Butterflies,"
"Beautiful Shells," "Favourite Song Birds," "A Story of the Seasons," &c., &c.*

WITH EIGHT COLOURED PLATES, AND SEVERAL WOOD ENGRAVINGS.

LONDON:

GROOMBRIDGE AND SONS, 5, PATERNOSTER ROW.

M DCCC LXII.

QL
696
A558A33
1862
CHURCH

INTRODUCTION.

WHAT IS A BIRD? Of course every one knows what a bird is—a two-legged, winged, feathered animal—a feathered biped, we may say, because it goes upon *bi*—two, *pedes*—feet, when it does walk, which in some species is not very often, although others, whose bodies are heavy, and habits “of the earth, earthy,” pass the greater part of their lives on their feet, or in the water; in which case their feet, which are generally webbed, act as paddles to sustain, and impel them from place to place.

The term *Bird* is Saxon, as is also *Fowl*, generally applied to the larger kinds; thus we speak of Poultry as Domestic Fowls, of Wild Ducks and Geese, etc., as Wild Fowl; while the Grouse, which make their homes in the wide wild moors of Scotland, and are eagerly sought by the sportsmen, are called Moor Fowl. Then, too, one who makes it his business or pleasure to pursue and capture the free-winged creatures, is called a Fowler, and the instrument of death which he carries is a Fowling-piece. The term *Fowl* as used in Scripture, is applied to the whole feathered division of animated nature; thus we read in the history of the creation given in the first chapter of Genesis, that “God said Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind; and God saw that it was good. And God blessed them, saying, Be fruitful and multiply, and fill the waters in the seas, and let fowl multiply on the earth.”

And truly, as we all know, fowl have multiplied on the earth; everywhere do we see and hear them, leading their gladsome lives, and singing, as we cannot help sometimes thinking, praises to their Great Creator.

The melody of birds! how delightful it is, how cheering, how soothing! Who can listen to it without a thrill of pleasure? Who can look upon their elegant forms, clothed in variegated plumage, and watch their lively and graceful motions without confessing that they are indeed the most lovely and loveable of

created things? Poets out of number have sung their praises, and no wonder, for birds are themselves the poets of the woods and fields, and a fellow feeling, as the proverb says, makes men "wondrous kind." Children especially delight in them; and this need not surprise us, for musical sounds and graceful forms, bright colours and lively motions, cannot fail to please a childish heart; God meant that they should do so; and this belief, which I would have my readers cherish, gives us an exalted idea of His goodness, as well as His wisdom. He created Birds like many other things—like most of the common objects that we see around us, to be pleasing as well as useful; and he is the wisest mortal, whether he be child or man, who is most grateful for these precious gifts of the Almighty, and gathers from them the greatest amount of pleasure, as well as instruction.

But what can birds teach? Oh, many things. We may remember that Job, even in the depth of his affliction, reproved those who would question the goodness of God, by saying—"Ask the fowls of the air, and they shall tell thee." But what would they tell, those free rejoicing creatures, that live from day to day upon the bounty of Providence, and have no fear, no care for the morrow. Let us turn to the sixth chapter of St. Matthew's Gospel, and hear what our Saviour says:—"Behold the fowls of the air, for they sow not, neither do they reap, nor gather into barns; yet your Heavenly Father feedeth them: are ye not much better than they?" you that have an immortal soul to be saved, an everlasting life to live, will not God, who suffereth not a Sparrow to fall to the ground unnoted, take care for you? Assuredly He will; so take a lesson from the birds, and be happy and contented with your lot, whatsoever it may be.

"Their little lives are free from care,
From bush to brake they fly,
Filling the rich ambrosial air
Of summer's painted sky:
They flit about the fragrant wood;
Elisha's God provides their food,
And hears them when they cry.
For ever blithe and blest are they,
Their sinless course a summer's day."

WHAT IS A BIRD?

IT seems to us that we have not yet answered this question properly—scientifically. Let us do so in the words of a British naturalist named Macgillivray, who says that "Birds constitute the second class of vertebrate animals, and are characterized by



having an internal skeleton; a two-fold, that is a general and a pulmonic circulation, (pulmonic means belonging to the lungs;) as well as a double respiration, (breathing,) the air passing between their lungs into cells distributed through various parts of the body, and even into some of the bones; by being warm-blooded, oviparous, (laying eggs, from the Latin *ovum*—an egg,) furnished with four extremities, or limbs, of which the anterior (hindmost) are converted into wings, and by having their skin covered with feathers; a circumstance peculiarly distinctive of the class; being organized for flying, they are proportionally lighter than animals of equal dimensions belonging to other classes. Their specific gravity (weight,) in fact, is less than that of water, so that they all float on the surface of that element; and many of them are adapted for swimming upon it, or for plunging or diving into it. By far the greater number, however, are confined to the air, most of them obtaining their food by walking on the ground or on trees, while a few procure their prey on the wing, and are incapable of walking without difficulty."

This is as much as we need say at present about the general structure of

"Birds, the free tenants of land, air, and ocean,
Their forms all symmetry, their motions grace."

AVES

Is the scientific name given to this large class of animals; it is the plural of *avis*—the Latin for a bird, or fowl. Birds have been naturally divided into three great orders—*aërial*, of the air; *terrestrial*, of the earth; *aquatic*, of the water; *aér*, *terra*, and *agua*, being the Latin for the three elements named. This classification, however, would by no means do for scientific purposes, and naturalists have adopted others founded upon the peculiarities of structure or habits, nature of food, or some other circumstance which might serve to distinguish one species of bird from another. A consequence of this diversity of arrangement is, that different names are frequently applied to the same bird, which is rather puzzling to a learner; but a little study of the different systems of Willoughby and Ray, Linnæus, Cuvier, Brisson, Temminck, Vigors, etc., will soon enable him to get over this difficulty, and to recognise a feathered friend under any one of its dozen aliases. The particular branch of Natural History into which such a course of inquiry would lead the student, is termed

ORNITHOLOGY.

THIS, like the rest of the *ologies*, stands upon Greek feet; it

means literally a discourse on birds; so an *ornithologist* is one who studies the nature and habits of the feathered creatures; and the names we have just mentioned are among the most celebrated of those who have done this, although they have not confined themselves to this department of animated nature, as some others in a great measure have; among these may be mentioned

MR. JOHN GOULD,

of whom, as his name is intimately connected with the beautiful family of birds which it is the object of this volume to describe, we give a brief memoir.

This distinguished naturalist was born at the little town of Lynn, in Dorsetshire, on the 14th. of September, 1804. At an early age he manifested a strong desire for the study of nature, which led to his being placed, when about fourteen years old, under the care of one who had the superintendence of the Royal gardens at Windsor. Here he remained until his twentieth year, adding a taste for botany and floriculture to his previous bent for natural history. About this time might be observed, as a writer in "Dickens' Household Words" tells us, "A young man whose 'daily walks and ancient neighbourhood' were by the quiet creeks that branch from the Thames, near Eton, or on the verge of an adjacent forest. He is sometimes apparently idle, lying under the willow branches in a little boat, with a book on his knee and a gun by his side. There is a well-known sound, and the gun is cocked. The Kingfisher has darted upon his finny prey, falling into the stream like a lump of lead. As he rises with the minnow, and his orange breast and green blue tail glitter in the evening sun, his flight is ended. In a few days he is stuffed, sitting on the pendant bough, ready for the plunge. The unscientific bird-stuffers are amazed that there can be life in death.

In process of time this young man has made a considerable collection. He is the possessor of a few books of zoology, but most especially does "Bewick's Birds" delight him. He earnestly longs to become a scientific naturalist, to attain to something more than mere mechanical skill, for which he has gained a reputation. The opportunity arises. He leaves his native town, being engaged by the Zoological Society in the preparation of specimens for their museum. He marries. His wife has a remarkable talent for delineating objects of natural history with accuracy and taste. They publish a beautiful example of their joint ability; he as a scientific author, she as an accomplished artist, in a description and delineation of one hundred different species of birds, which

were sent home from the hill countries of India. These species were mostly new to science, and the work was consequently one of great interest, and of no little difficulty; it was entitled "A Century of Birds from the Himalayan Mountains;" the first part was published on the 1st. of January, 1831. Its success was complete. Henceforth John Gould, who had sold stuffed birds at Eton, was to take rank amongst the best naturalists of his age. His labours since then have been unceasing, and his success proportionate. He commenced, in 1832, a magnificent work entitled "The Birds of Europe," which was completed in 1837, in five folio volumes, containing four hundred and fifty plates. Of this work, although published at an immense price, not a single copy now remains for sale.

After the issue of two or three less important works, he, in the spring of 1838, left England for Australia, for the purpose of studying the natural productions of that country, of which, previously, so little had been made known, and soon after his return in 1840, he commenced to publish his "Birds of Australia," in which, from first to last, he laboured about ten years. This is in seven folio volumes, wherein we have six hundred species figured and described from actual observations in their native haunts. Connected with this work of surpassing beauty, and necessarily large cost, there is a touching history. The wife of the naturalist was the companion of the voyage. She had drawn on stone nearly all the plates of the 'Birds of Europe,' but her living industry was interrupted, she died 'within one short year after our return from Australia,' says Mr. Gould in his preface; 'during her sojourn in which country an immense mass of drawings, both ornithological and botanical, were made by her inimitable hand and pencil.'

Mr. Gould is now engaged in the "Birds of Asia," and has made good progress with "A Monograph of the *Trochilidae*, or Humming Birds." The industry which has got together, and the taste and science which arranged the collection of about three hundred species of these beautiful birds, which were exhibited a year or two since in the Zoological Gardens, will be permanently arranged in this book, the coloured engravings of which approach the brilliancy of the plumage of the birds themselves; a newly-discovered process enabling the artist to give all their rich metallic tints in a most vivid and life-like manner."

We have now before us Mr. Gould's magnificent work on Humming Birds, of which ten parts are now published, containing one hundred and fifty species, and wish we could give our readers only a faint idea of the exquisite beauty of the life-like delineations; the brilliancy of the colours is perfectly dazzling, and the forms of

the little winged gems so full of grace and vivacity, that one can scarcely deem them to be other than the living creatures themselves. There they are, sporting amid the blossoming plants in which they most delight, feeding their young in the compact little nests, slung, for the most part, at the ends of slender pendant boughs, or broad leaves, and evidently swinging to and fro with every stir of the light wind, or motion of the birds. There they are, engaged in their desperate combats, with their splendid throats inflated, and wings and tails spread out to the fullest extent, darting hither and thither; now out in the open sunshine, now beneath the shade of the profuse and marvellous vegetation of the Tropical world. But let the poet describe them—

“Still sparkles here the glory of the west,
Shews his crowned head, and bares his jewelled breast;
In whose bright plumes the richest colours live,
Whose dazzling hues no mimic art can give:
The purple amethyst, the emerald's green,
Contrasted mingle with the ruby's sheen;
While over all a tissue is put on,
Of golden gauze, by fairy fingers spun.”

HUMMING BIRDS.

THESE birds form a distinct group or family of the great class *Aves*. Naturalists call them *Trochilidae*; the Latin for a Humming Bird being *Trochilus*. They are also termed *Tenuirostral*, that is slender-billed birds, from the Latin *tenuis*, thin, small; and *rostrum*, a projection or beak. A glance at the species figured in this book will at once shew how appropriate is this name, the bills of all being fine and slender, some of them extremely so. These bills, which in some instances are straight, and in others curved up or down, have been used by some naturalists as marks of division between distinct genera, but this arrangement is not generally followed, the peculiar form being rather considered as characteristic of a species, and therefore called specific. In some kinds the bill is armed, both on the upper and lower portions, with small teeth, sloping backwards, but these never extend to the extreme end, which has always a sharp point, sometimes curved down like a hook. The upper mandible of the bill (*mandibula* is the Latin for jaw) is in most species sufficiently large to overlap, and partly sheath the lower; but notwithstanding this difference in shape, the bills of all Humming Birds appear to be similar in their texture, and the nature of their cutting edges; therefore we may conclude that the nature of the food is nearly the same in all, the variations of form being merely such as are required to obtain it from differently-placed or shaped receptacles. In the cut

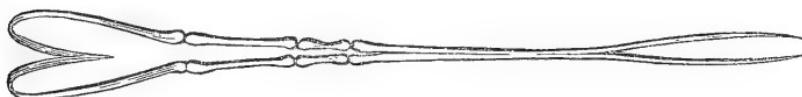
below is exhibited the shape of one of these bills with toothed mandibles.



Within this horny sheath lies snugly coiled up that curious instrument,—

THE TONGUE,

which is very similar to that of the Woodpeckers, and some other of our climbing insectivorous birds; it is very long and *retractile*, that is, capable of being drawn back into a small compass, so it lies, while the bill is busy opening the way into the nectaries of the flowers, or exploring small crevices wherein minute insects lie concealed; as soon as the prey is discovered, the tongue is darted out with great force and swiftness, and then as rapidly withdrawn to convey the delicious morsel to the throat. It was at one time supposed that these birds lived entirely on the sweet juices of plants, but recent investigation has placed it beyond a doubt that they are, at all events, partly insectivorous; some which have been kept in confinement on sugar and water, of which they have partaken with great eagerness, have after a while been observed to droop and refuse this kind of food, but have returned to it with as much relish as ever, after enjoying a change of diet in the shape of young spiders, or some other small insects. But let us finish our description of the tongue, which is a double instrument, consisting of two muscular tubes joined together for the greater part of its length, but towards the top swelling out into



a spoon-like form, or rather like that of the port crayons, used for holding coloured chalks for drawing, as it divides into two distinct portions, each of which tapers to a point, as shewn in the above cut, where may also be seen the muscular continuation of the tube which passes round the back of the skull, and coming over the front, meets in a point a little beyond the line of the eyes.

In some cases the outer sides of the extreme forks of the tongue have sharp-pointed pliable spines, or barbs, no doubt intended to assist in securing the prey; the muscular fibres by which it is thrust out and drawn in are arranged spirally like the turn of a corkscrew, so that in acting they lessen or increase the diameter of the tube, in proportion as they project or retract it; that these hollow tubes formed channels through which liquid nourishment was sucked up by the bird, seems to have been the opinion of most of the older naturalists; and we cannot wonder that the poets should have fallen into this error, for error it appears to be, and compared the bright-winged creatures to bees rifling the flowers of their nectar stores. Thus James Montgomery says—

“From flower to flower, where wild bees flew and sung,
As countless small and musical as they,
Showers of bright Humming Birds came down, and plied
The same ambrosial task with slender bill,
Extracting honey bidden in those bells,
Whose richest blooms grew pale beneath the blaze
Of twinkling winglets hovering o'er their petals,
Brilliant as rain-drops, when the western sun
Sees his own miniature of beams of each.”

THE FEET

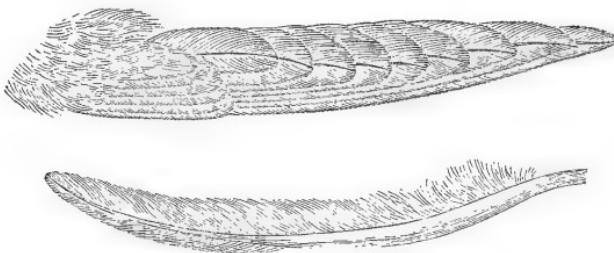
of Humming Birds are what are called *anisodactylic*. This is a long ugly word, which I scarcely expect my readers to remember; it is of Greek origin, and means a kind of double measure, with one portion longer than the other. This is a foot peculiar to the creepers, and all such birds as are in the habit of climbing about the trunks and branches of trees in search of food. Of British Birds the Nuthatch has this formation of foot in its greatest perfection; in the Humming Birds it is not very perfect, as they have less use for it, feeding chiefly while hovering on the wing over the flower-bells, and amid the splendid creepers of the western forests, where, as the poet Rogers says,

“Through citron groves and fields of yellow maze,
Through plantain walks, where not a sunbeam plays,
Here blue savannahs fade into the sky,
There forests frown in midnight majesty.
Here sits the bird that speaks! there quivering rise
Wings that reflect the glow of evening skies!
Half-bird, half-fly, the fairy king of flowers
Reigns there, and revels through the fragrant bowers.”

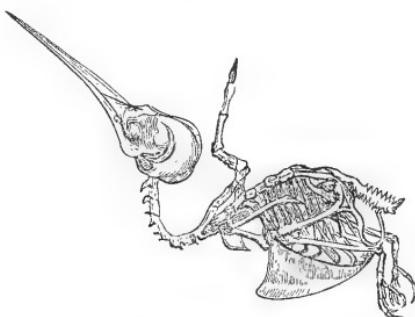
THE WINGS

of the Humming Bird are formed much like those of the Swallow tribe, especially of that species called the Swift; they generally

exceed the tail in length, unless, as in some cases, that member has an extraordinary development. When the wing is spread it may be noticed that the outline is very much curved; the feathers are closely set; the shafts or quills being very strong and elastic, and the webs firm and full; the air from above passes easily through them, but pressure from beneath renders them close and compact as a piece of whalebone. We give below a cut of two of these feathers, in order to shew their form and structure.



Nearly all the muscular power of this creature's small anatomy is concentrated in the organs of flight, and a wonderful facility of performing its evolutions in the air is the result; it darts hither and thither with the swiftness of light, and when suspended over a flower, so rapidly do the wings move, that one might believe them to be quite motionless, were it not for the changeful lustre that plays about them, as the rays of the sun strike them at different



angles, and for the low drowsy kind of sound, similar to the hum of bees, which they emit, and from which they derive their common name. The length of time, too, during which they remain on the wing is truly astonishing; indeed, they seldom appear to

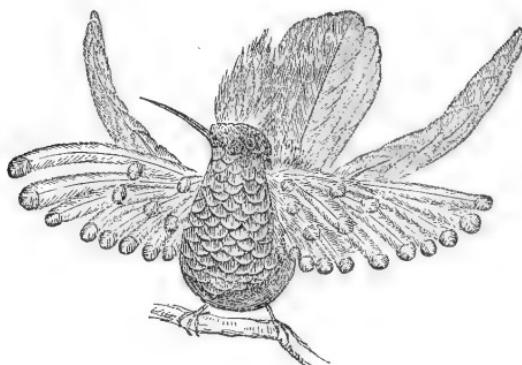
perch, and not having much use for their legs, it is no wonder that they are furnished with such tiny ones. The last engraving represents a skeleton of one of these birds, shewing what insignificant affairs the legs are in proportion to the rest of the body; the bill, it may be seen, is much larger, and the wing, though deprived of its feathers, also exceeds the leg in size; the sternum, or breast-bone, is deep and sharp, like that of the Swift; the keel or edge projecting very far, more so perhaps than is the case with any other bird of so small a size.

The whole structure is very light, yet well-knit and firmly compacted. Clothe it in the beautiful plumage, and it flashes before the sight like a blaze of jewelry. Ruby and amethyst, and all gorgeous rainbow tints are there, with gleams of metallic lustre that dazzle one to look upon them. And so God has seen fit to adorn this little bird, and to send thousands and thousands of such, flitting and quivering about the wilderness where no human eye ever sees them. Various in form and size, some no bigger than a humble-bee; some as large as our plain Jenny Wren; some with long slender tails, that droop gracefully earthward; others with short stumpy ones, that look as if they had been cut close off with a pair of scissors; some have tails more or less deeply indented or forked, with the forks turning down or up, as the case may be. In one species the tail goes straight up from the back for a short distance, then divides into two portions, like the legs of a pair of compasses a little way open—each of these is almost as thick as the body, and a great deal longer. In another the outer feather of each fork of the tail, which is much longer than the rest, spreads out at the end into a shape like the bowl of a spoon, or a racket-bat, hence it is called the Racket-tailed Humming Bird; it will be found among our figured species.

Many of these birds have fan-like tails, that when spread out in the sunshine, look as if they were set with gems; some are crested, some have ruffs about the neck, and some what appear to be small supplementary wings, springing out of each side of the head; others have little downy muffs, like powder-puffs, about the legs.

Infinite is the variety of shape and hue, strong the contrasts of colour which they exhibit, yet do they never strike the observer as grotesque in form, or gaudy in tint; they are always beautiful, always pleasing; let them sport ever so much finery, and wear the most oddly-shaped dresses, we feel that it is natural and not artificial, and can find no fault with them on the score of good taste. Look at the little feathered fop on next page.—What a provokingly pert and impudent air he has, with his spread wings, perked-up tail and crest, and bold bright eye; his flaming gorget

and gem-studded plumes are exhibited to the best advantage, and he seems to say, "Look, good people, look, what a beautiful bird I am!"



PLUMAGE.

WATERTON, in his "Wanderings in South America," tells us that, "Though least in size, the glittering mantle of the Humming Bird entitles it to the first place in the list of birds of the new world. It may truly be called the Bird of Paradise; and, had it existed in the old world, it would have claimed the title, instead of the bird which has now the honour to bear it. See it darting through the air almost as quickly as thought! Now it is within a yard of your face!—in an instant gone! Now it flutters from flower to flower to sip the silver dew—it is now a ruby—now a topaz—now an emerald—now all burnished gold."

The French naturalist, Buffon, had said, before the above enthusiastic description was written, "Of all animated beings, this is the most elegant in form and splendid in colouring. Precious stones and metals artificially polished, can never be compared to this jewel of nature, who has placed it in the order of birds, at the bottom of the scale of magnitude, while all the gifts which are shared among others—nimbleness, rapidity, sprightliness, grace, and rich decoration, have been bestowed upon this little favourite. The emerald, the ruby, and the topaz, sparkle in its plumage, which is never soiled by the ground, for its whole life being aerial, it rarely lights on the turf. It dwells in the air, and flitting from flower to flower, it seems to be itself a flower in freshness and splendour; it feeds on their nectar, and resides in climates where they blow in perpetual succession; for the few which migrate out of the Tropics

during the summer, make but a short stay in the temperate zones. They follow the course of the sun, advancing and retiring with it; and flying on the wings of the zephyrs, sport in eternal spring."

Here, as elsewhere in our book, it will be seen how even the grave man of science has been led, by the extraordinary beauty of his subject, to speak and write like a poet; and the poets themselves have found it difficult to find terms sufficiently expressive of brilliancy of effect, and richness of tint, to apply to the plumage of the Humming Bird, which is only seen in its greatest perfection while the creature is in a living state. Mr. Bullock observes that, "Europeans who have seen only the stuffed remains of these feathered little gems in museums, have been charmed with their beautiful appearance; but those who have examined them while living, displaying their moving crests, throats, and tails, like the Peacock in the sun, can never look with pleasure on their mutilated forms. I have carefully preserved about two hundred specimens, in the best possible manner, yet they are still but the shadow of what they were during life. The reason is obvious; for the sides of the *laminæ*, or fibres of each feather, being of a different colour from the surface, will change when seen in a front or oblique (side-long) direction, and as each *lamina*, or fibre, turns upon the axis of the quill, the least motion, when living, causes the feathers to change suddenly to the most opposite hues."

Thus it is that emerald green may turn to velvet black, or fiery red; bright crimson to blue, and so on, as is observable in many species.

HOMES AND HAUNTS.

IT is amid the trackless forests, and wild savannahs of the western world, that the Humming Bird must be chiefly sought for; indeed it appears to be confined altogether to the western hemisphere, although its range is by no means confined to the tropical or warm parts thereof, or the low-lying and sheltered districts. Some species are found upon high table lands and mountain slopes, where the air is not merely temperate, but absolutely cold; even in countries to the north of Canada, they may be seen flying about, their brilliant plumage contrasting strangely with the snowy aspect of the scene. It is, however, where the heat is most intense, and insect life most abundant, that these lively birds are found in the greatest profusion and variety. Amid the tangled forests of South America, where the alligator lurks in the swamps, and the huge boa lies coiled up ready to attack man

or beast, that the flash and gleam of their rich plumage lights the gloom of the woodland depths.

"Each rapid movement gives a different dye,
Like scales of burnished gold they dazzling show,
Now sink to shade—now like a furnace glow."

Travellers have again and again expressed their admiration at the lively motions and splendid appearance of these "winged gems," as they have been well called; they have been surprised and delighted to observe the little creatures, so happy and joyous amid scenes of sublime and dreary solitude, flitting about amid the magnificent blossoms of the creepers which encircle the trunks of the mighty trees, and trail along the moist ground, and stretch from side to side overhead like thick cords, around which are twined wreaths of green leaves and brightly-tinted blossoms, large pendant bells and velvety tufts, and tall spikes and spreading stars, such as in this country are only seen in hothouses and at floricultural fêtes. Amid these the Humming Bird revels and reigns, like a golden-crowned and jewelled king.

Strange wild forms are all around him,
Savage creatures prowl beneath him;
Screaming Paroquets and Lories,
Make their homes amid the branches
Where he dwells, and large-billed Toucans
Sit and watch him, as he glances
In and out amid the blossoms;
Or above them, motionless,
Hovers on his outspread pinions.
There at morn the chiming Bell-bird
Wakens all the forest echoes;
And at night the bats go flitting
Through the arches dim and solemn,
Startling oft the sleeping monkey;

Or the Indian, with his blow-pipe,
Spear, and bow, with poisoned arrows,
Who by darkness overtaken,
Climbs amid the boughs to slumber,
Lighted by the gleaming fireflies;
While the scaly Armadillo
Issues from his sandy burrow;
And Mosquitoes buzz around him;
And with stealthy tread, the Jaguar
Passes slowly on, then crouches
Cat-like on the earth, all ready
For the spring upon some object,
Dimly seen amid the darkness
Of the deep primeval forest.

Such is the home of the Humming Bird amid the forests of Guyana, or other of the South American countries, where the hand of cultivation has done yet but little towards reclaiming the wilderness. In such regions it is that these birds literally swarm; indeed all through the southern parts of the great western continent they abound, as well as in the islands that lie between Florida and the mouth of the Orinoco. In cultivated districts also, they are commonly found, especially in the gardens, where they become very familiar with man, allowing of a near approach, although it is at all times difficult to catch them, their movements being so quick. They seem to have great confidence in their own powers of flight, for they will frequently hover about one side of a shrub, and extract their food from the blossoms, while the hand of a person may be within a few inches of them, plucking fruit or flowers from the opposite side.

As we recede from the tropics on either side, the Humming Birds gradually decrease in number and variety. In Mexico and Peru there are some species which are peculiar to those countries; they have been observed near the Straits of Magellan, and even on the remote island of Juan Fernandez. Two species only, the Ruby-throated, and the Ruff-necked, extend far into North America; the latter of these was discovered by Captain Cook, in Nootka Sound, and the former was found breeding, by Dr. Drummond, near the sources of the Elk River.

We shall have to say more of these two species farther on, when we come to describe those figured in the plates, among which they are included; it will also be necessary then to go more fully into the habits, etc., of distinct species, which will serve to illustrate the general characteristics of the whole family.

Although in tropical countries the Humming Birds are constant residents, yet in some colder climates they are migratory; in Central Chili they are said to make their appearance in autumn, and in the latter end of the month which corresponds to our October, they are very common. In the spring they begin to disappear, and by the end of March are almost entirely gone, that is, one species, but then others arrive, so that the Chilian gardens are never destitute of these winged ornaments. On the east and west coasts of North America the same migration takes place, the birds moving southwards, or towards the tropic during the colder parts of the year, and returning with the returning heat. In Terra del Fuego, and in Northern California, which occupy about the same relative positions north and south, some species remain throughout the year. In the West India Islands they are constant residents; there amid the spicy groves, and lands of luxuriant vegetation, both wild and cultivated, they find a congenial home. The following account of them, written by LADY STUART WORTLEY, so truthfully and agreeably illustrates the character and manners of these tiny Bee-birds, as they are sometimes called, that we are tempted to quote it entire:—

"The Humming Birds in Jamaica are lovely little creatures, and most wonderfully tame and fearless of the approach of man. One of these charming feathered jewels had built its delicate nest close to one of the walks of the garden belonging to the house where we were staying. The branch, indeed, of the beautiful little shrub in which this fairy nest was suspended, almost intruded into the walk; and every time we sauntered by, there was much danger of sweeping against this projecting branch with its precious charge, and doing it some injury, as very little would have demolished the exquisite fabric. In process of time two lovely little pearl-like eggs had appeared; and while we were there we had the

great pleasure of seeing the minute living gems themselves appear, looking like two very small bees. The mother bird allowed us to look closely at her in the nest, and to inspect her little nurslings, when she was flying about near, without appearing in the least disconcerted or alarmed. I never saw so tame or so bold a little pet. But she did not allow the same liberties to be taken by everybody unchecked. One day as Sir C. was walking in the pretty path besides which the fragile nest was delicately suspended amid sheltered leaves, he paused in order to look at its Lilliputian inhabitants. While thus engaged he felt suddenly a sharp light rapping on the crown of his hat, which considerably surprised him. He looked round to ascertain from whence this singular and unexpected attack proceeded, but nothing was to be seen. Almost thinking he must have been mistaken, he continued his survey, when a much sharper and louder rat-tat-tat-tat seemed to demand his intermediate attention, and a little to jeopardize the perfect integrity and preservation of the fabric in question. Again he looked round, far from pleased at such extraordinary impertinence; when what should he see but the beautiful delicate Humming Bird, with ruffled feathers and fiery eyes, who seemed by no means inclined to let him off without a further infliction of sharp taps and admonitory raps from her fairy beak. She looked like a little fury in miniature—a winged Xantippe.

These pointed attentions apprized him that his company was not desired or acceptable, and much amused at the excessive boldness of the dauntless little owner of the exquisite nest he had been contemplating, Sir C. moved off, anxious not to disturb or irritate further this valiant minute mother, who had displayed such intrepidity and cool determination. As to V. and me, the darling little pet did not mind us in the least; she allowed us to watch her to our heart's content, during the uninterrupted progress of all her little household and domestic arrangements, and rather appeared to like our society than not, and to have the air of saying, 'Do you think I manage it well, eh?'

Some time afterwards, at Kingston, at the Date-tree Hotel, we made the acquaintance of another of this charming tribe, which almost regularly every morning used to come and breakfast with us! Thus it was:—Of course our large windows were opened wide as they would go; a beautiful tree covered with rich brilliant blossoms stood close to the house, (near the graceful date-tree that gives its name to that pleasant hotel;) and the lovely little bird used to come and suck the honey-dew out of those bright flowers that made that tree so splendid, generally, as if socially inclined, and disliking a solitary breakfast, *at the identical hour* that we were seated at our breakfast-table. The fresh breezes would gently

blow the beautiful branches, blossoms, buds, bird, leaves, and all, into the room, but undismayed the brilliant stranger would continue at his repast, preventing us from continuing ours, in consequence of the interest and admiration he excited in us; until at last the novelty wore off, and we expected to meet our little friend every morning at breakfast, as a matter of course. Still we were never insensible to the charm of his elfin society, and it was quite a mortification if the wee guest neglected to be punctual to his self-imposed appointment.

Ornithologically speaking, I believe these precious Bee-birds, these diminutive fays, these diamond dew-drops on wings, these sylphs, these visions, these rainbow-atoms, these flying flowers, these buds of birds, are as bold as an eagle, and fiery as the falcon, in fact, are perfect little furies, just what our small fury who assaulted the governor's hat shewed herself to be. She seemed soft as velvet, or a puff of down, light as foam, bright as a spark of the sun, mild as new milk—a breath of spring, or a honey drop; but it was in truth very valiant velvet, very doughty down, (quick knock-you-down indeed,) milk soured by a dash of thunder, or, rather, milk-punch of the strongest, honey of the hottest, foam of the fiercest, the most peppery of puffs,—sunshine of the most fiery description, that verily proved a pocket *coup de-soleil*; 'twas a breath of infant Boreas, and a spark of—gunpowder. This fairy Mab is, in fact, the very Bellona of birds."

In the West Indies, we may here note, they call this bird the Collobree, under which name it is alluded to in a poem by Chapman, entitled "Barbadoes," who has fallen into the mistake of supposing that the bird lives on honey:—

"Small as a beetle, as an eagle brave,
In purest ether he delights to lave;
The sweetest flowers alone descends to woo,
Rifle their sweets, and lives on honey-dew.
So light his kisses, not a leaf is stirred,
By the bold, happy, amorous Humming Bird;
No disarray, no petal rudely moved,
Betrays the flower the Collobree has loved."

HABITS.

It will thus be seen that our tiny Hummer is a very fierce little fellow indeed, ready to attack all and sundry who meddle with those near and dear unto him, or whom he supposes may have an intention of doing so. We do not consider this readiness to fight to be an amiable trait in his character, and would not therefore hold him up as an example to be followed by our readers. Fighting is about the worst thing an aggrieved or insulted person

can do, and those who resort to it for a redress of their grievances generally leave off worse than they begun, even if they come off conquerors. Beings that have reason and the plain command of God to guide them know this, and have no excuse for resorting to violence; but birds and other unreasoning animals do not know better, and therefore must be held excused, if, as is often the case, they fight and destroy each other.

Fierce is at times the combat between two of the birds which we are describing, dressed in their splendid coats of mail, which seem to emit flashes of various-coloured fire at every movement; each levels his pointed bill, and darts on his antagonist with the swiftness of a barbed arrow; they meet, they separate, they meet again, with shrill chirpings; they dart upward and downward, and circle round each other, till the eye grows weary of watching, and can no longer follow their rapid motions. At length, the combat ends by one of them falling exhausted on the ground, while the other rests, panting and trembling, on a leafy spray above his fallen adversary, if he too does not fall to the ground mortally wounded. During the breeding-season especially, do they manifest this quarrelsome disposition, two males seldom meeting on the same bush or flower without a battle; and so bold are they in defence of their young, that they attack indiscriminately all birds, of whatever size, which approach their nests.

Bullock says of that very diminutive species called the Mexican Star, "They attack the eyes of the larger birds, and their sharp needle-like bill is a truly formidable weapon in this kind of warfare." He also says that, "under the influence of jealousy, they become perfect furies; their throats swell, their crests, tails, and wings expand, they fight in the air, uttering a shrill noise, till one falls exhausted to the ground." And according to the testimony of an older writer, named Fernando Oviedo, "when they see a man climb the tree where they have their nests, they fly at his face, and strike him in the eyes; coming, going, and returning with such swiftness, that no man would rightly believe it that hath not seen it."

Perhaps no better *short* description of this bird is to be found than that given by Dampier, an English navigator of the seventeenth century, who, we believe, first made it known to Europe. His account of this, the most delicate and lovely of the feathered tribe, is as fresh and beautiful as when the young seaman, charmed with its loveliness, first entered a description of it in his rude journal:—"The Humming Bird is a pretty little feathered creature, no bigger than a great overgrown wasp; with a black bill, no bigger than a small needle, and with legs and feet in proportion to its body. This creature does not wave its wings like other

birds when it flies, but keeps them in a continual quick motion, like bees or other insects; and, like them, makes a continued humming noise as its flies. It is very quick in motion, and haunts about flowers and fruit like a bee gathering honey; making many addresses to its delightful objects, by visiting them on all sides, and yet still keeps in motion, sometimes on one side, sometimes on the other, as often rebounding a foot or two back on a sudden, and as quickly returns again, keeping thus about one flower five or six minutes or more."

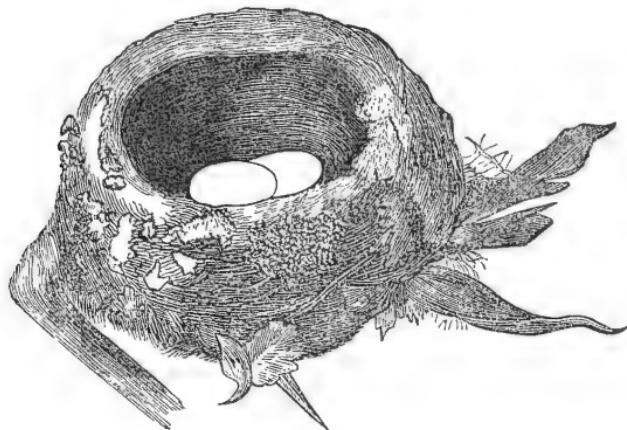
NESTS.

THE nests of these beautiful birds are built with great delicacy, yet with a due regard to warmth and compactness; they vary greatly in size as the species do—perhaps about half an inch across the top may be taken as the smallest. The materials, of course, differ greatly, according to the locality in which they are built; mosses, lichens, fine grass, stalks, cotton and vegetable down of various kinds, being chiefly used; these materials are glued together with the saliva or spittle of the bird. They have been found composed entirely of thistle-down with the seeds attached, and also of a spongy substance, like the tissue of a kind of dried fungus. Part of the materials of which their nests are composed are generally wound around the stem of the tree or shrub to which they are attached, so as to give them a firm hold; and their texture is so close that they are not easily broken by the wind. The shape is simply that of a half globe or cup, except in the instance of some species, in which it assumes a more lengthened form, and is suspended to the leaf of some reed-like plant; in this case the entrance is near the bottom, and the texture less close and compact than in most. The figure on the next page exhibits the more common form and make.

There we perceive the delicate white eggs, very small, but not so much so as we might expect from the size of the bird; they are two in number, as is nearly always the case—sometimes but one. The period of *incubation*, that is, of sitting on the eggs, is very short—not more than ten or twelve days; according to Audubon, the North American species hatches in ten days, and the young are ready to fly in a week, so that the birds most likely breed frequently in the season, and thus produce as many young as those which have more numerous broods.

Professor Rennie has alluded to the domed or covered nests built by some birds, as necessary to protect them from the heat and glare of the tropical sun, while sitting; but Waterton says, "should the professor ever go into Guiana, he will see in the vast

and wet savannahs of that far-extended region, that the little Green Humming Bird, not much larger than an humble-bee, always makes its nest upon the direct twigs of a small, straggling, ill-thriving bush. There is not one solitary leaf near the dry



twig to screen the bird from the rising, the noonday, or the setting sun. Nevertheless, this little delicate creature sits in its hemispherical nest, exposed to the downward rays of the fierce luminary, without the least apparent inconvenience."

He argues, from this fact, that Rennic's theory in respect to domed nests, is an erroneous one. Doubtless there is a reason for this peculiarity of structure, although even observant naturalists may be at a loss to understand why the habitation of one bird should be covered with a roof, and that of another left open and exposed, although both may be subjected to the same atmospheric influences; and indeed, an uncovered nest may belong to a bird apparently much more tender and delicate than that which has a covered one. Nature has many riddles for man to find out yet, notwithstanding the number whose meaning he has been enabled, by patient study and investigation, to discover; and it is by such that his curiosity and interest are excited, and he is tempted on in a pursuit of knowledge, as my readers would be tempted if they saw one of these bright-winged Humming Birds fluttering before them, now poising to dart the long forked tongue into the trumpet-shaped blossoms of the Bignonia, now shooting off like an arrow to some other spot. They would wish to know something of the history of so beautiful a creature, to observe

its habits, and find out where it dwelt, even if they did not desire to possess the dazzling prize, and so they would follow it, and not be deterred from the chase by many obstacles. So it is with the naturalist in pursuit of facts, which he stores up and arranges, and classifies, making each fresh one obtained as a sort of key to explain others already in his possession, or as a light which shall guide him to the acquirement of newer and more valuable *facts*. Many riddles, we say, has nature yet for man's solution; and God has wisely ordained that he shall find them out slowly, and only after much toil and study. He makes mistakes very often, thinks he has found out some wonderful secret, and cries "Ah, ah, I have it!" as a boy does when he puts his cap upon a butterfly, and lifting it cautiously, finds no butterfly there, or only a poor crushed and disfigured thing, not worth the catching. But his mistakes are sure to be corrected by after-experience; and they do him good, by teaching him not to be too confident in his own powers.

So much for this question of domed nests; and now let us take the thread of our Humming Bird's history. We will suppose the patient mother to be sitting in that little round nest of hers, in the midst of some odorous shrub, in all the glory of a South American summer, when

"The silent hills and forest tops seem reeling in the heat."

The father is busy searching for food; he has not done so well as he could wish amid the bells, and trumpets, and long pendant tubs of the garden, and he feels inclined to try a change of diet. This is in Vera Cruz, where the houses of the Spanish residents are built so as to leave an open space in the centre; here they have commonly a fountain playing amid the shrubs and fruit trees, and rich flower-borders. The buildings, which on four sides surround this cultivated plot, are but one story high, and have shelving roofs, which project six or seven feet from the walls, covering a walk all round, and leaving but a small open space between the tiles and the trees in the centre. From the edges of these tiles innumerable spiders, called bird-spiders, because they are supposed to be sufficiently large and strong to seize and detain some of the smaller birds—although this is questionable, have spread their webs so closely and compactly, that they resemble a net. After passing once or twice round the court, as if to make sure of the best points of attack, the active little Hummer passes beneath the web, and begins to pick out the smallest of the entangled flies which are making hopeless attempts to escape from the snares of Giant Grim, who rushes

out to see who has the audacity to steal the meat from his shambles. Off darts the bird to another part of the web, threading his way swiftly, yet carefully, amid the gloomy cells and labyrinths, where it is likely the least deviation would entangle his burnished wings in the sticky net-work, and involve him in ruin; and what a triumph this would be to the spider, which sometimes rises up in defence of his citadel, when off the besieger shoots, so swiftly that he can only be traced by the track of coloured light which he leaves behind him. After resting a while on the branches of the citron, or flowering myrtle, he resumes the attack, and continues it at intervals until he is tired or satisfied. He then flies off to his little wife on the nest, and no doubt tells her what a fine bit of sport he has had in the spider's preserves, presenting her perhaps with some of the game, and promising to get her some more to-morrow. We may fancy how eagerly she listens, and how earnestly she begs of him not to be too venturesome.

We will now quote an extract from Audubon's "Ornithological Biography," in which he gives a most delightful picture of bird-life in America:—"I wish it were in my power at this moment to impart to you the pleasure which I have felt in watching the movements, and viewing the manifestations of feelings displayed by a single pair of these most favourite little creatures, when engaged in the demonstration of their love towards each other; how the male swells his plumage and throat, and dancing on the wing, whirls around the delicate female; how quickly he dives towards a flower, and returns with a loaded bill, which he offers to her; how full of ecstasy he seems to be when his caresses are kindly received; how his little wings fan her, as they fan the flowers, and he transfers to her bill the insects and the honey which he has procured with a view to please her; how these attentions are received with apparent satisfaction; how soon after the blissful compact is sealed; how then the courage and care of the male are redoubled; how he even dares to give chase to the tyrant Flycatcher; harries the Blue-bird and the Martin to their boxes; and how, on sounding pinions, he joyously returns to the side of his lovely mate. All these proofs of the sincerity, fidelity, and courage, with which the male assures his mate of the care he will take of her while sitting on her nest, may be seen, and have been seen, but cannot be pourtrayed or described.

Could you cast a momentary glance at the nest of the Humming Bird, and see, as I have seen, the newly-hatched pair of young, little larger than humble-bees, naked, blind, and so feeble as scarcely to be able to raise their little bills to receive food from their parents; and could you see those parents, full of anxiety

and fear, passing and repassing within a few inches of your face, alighting on a twig not more than a yard from your body, waiting the result of your unwelcome visit in a state of the utmost despair—you could not fail to be impressed with the deepest pangs which paternal affection feels on the unexpected death of a cherished child. Then how pleasing it is, on your leaving the spot, to see the returning hope of the parents, when, after examining the nest, they find their nurslings untouched! You might then judge how pleasing it is to a mother of another kind to hear the physician, who has attended her sick child, assure her that the crisis is over, and that her babe is saved. These are the scenes best fitted to enable us to partake of sorrow and joy, and to determine every one who views them to make it his study to contribute to the happiness of others, and to refrain from wantonly or maliciously giving them pain."

VOICE.

Does the Humming Bird sing? Some naturalists have contended that he does. But we fancy this is a mistake; a shrill piping sound, quickly uttered, appears to be all his stock of musical notes; this may be slightly varied so as to express love, anger, or fear, if the little Turk ever knows what fear is. Waterton shews how the error of supposing it to be a songster might have arisen: "I tried hard for some years to find out if Humming Birds ever sang. At last I had an opportunity. I was sitting under an orange tree, and I heard a Humming Bird singing within four yards of me. I fancied that I could see its bill move as it warbled. I had not the smallest doubt of the fact. Upon moving a little aside, I saw, just behind the Humming Bird, a small kind of *Sylvia* producing the notes, which, till then, I was quite sure that the Humming Bird had produced. A leaf or two intervening betwixt the Humming Bird and the real songster, had led me into error; whilst my imagination, far too vivid for the occasion, had innocently helped me on to the delusion."

Wilson says of the Northern Humming Bird, that its only note is a single chirp, not louder than that of a grasshopper.

Lesson likens the cry to the syllables *tèrè-tèrè*, frequently uttered, and with more or less force according to the excitement of the bird. Most frequently, he says, they are completely dumb; and, he adds, he has passed whole hours in the forests of Brazil without having heard the slightest sound proceeding from their throats. Still it seems likely that in a family whose species are so numerous, there may be some which have a kind of song, although faint and broken. This appear to be the case with the *Trochilus*

minimus, or Smaller Humming Bird of Jamaica, thus described by Mr. Bullock:—"The first of these minute creatures, less in size than some of the bees, which I ever saw alive, was near the house of a gentleman at Kingstone. He had taken his station on the twig of a large tamarind tree, which was close to the house, and overspread part of the yard; there, perfectly indifferent to the number of persons constantly passing within a few yards, he spent most of the day. There were few blossoms on the tree, and it was not the breeding season, yet he most pertinaciously kept absolute possession of his dominion; for the moment any other bird, though ten times as large as himself, approached near his tree, he attacked it most furiously, and drove it off, always returning to the same twig as he had before occupied, and which he had worn quite bare for three or four inches, by constantly perching on it. I often approached within a few feet, with pleasure observing his tiny operation of dressing and pluming, and listening to his *weak, simple, and oft-repeated note*. I could easily have caught him, but was unwilling to destroy so interesting a little visitant, who had afforded me much pleasure. In my excursions round Kingstone I procured many of the same species, and of the Long-tailed Black, and a few others, as well as the one I have mentioned, as the smallest yet described, but which has the *finest voice* of any. I spent some agreeable hours in the place that had been the Botanical Garden of Jamaica, and on the various trees now growing to a luxuriant size met with many curious birds, among which this specimen was perched on the bread-fruit or cabbage-tree. He poured forth his *slight querulous note* among a most curious assemblage of the indigenous and exotic plants and trees of the island, on a spot once the pride of Jamaica, now a deserted wilderness."

Mr. Gosse, in his "Birds of Jamaica," speaks also of a species, which he terms the Vervain Humming Bird, but which it seems likely is the same as that described as above by Bullock. He says, "the present is the only Humming Bird that I am acquainted with that has a real song. Soon after sunrise in the spring months, it is fond of sitting on the topmost branches of some mango or orange tree, where it warbles in a very weak but very sweet tone, a *continuous melody* for two minutes at a time: it has little variety. The others have only a pertinacious chirping."

None of the Spanish writers who have alluded to the Humming Bird speak of its song; but Levius and Theretus, two French authors, declare that these birds do sing, and that moreover they are such accomplished songsters, that no one who had not seen and heard them, would believe that so sweet a strain could proceed from such small bodies. Perhaps if they had examined a little

closely, than might have found out, as Waterton did, that the melody proceeded from another throat than that of the gay little bird—

“Whose silken vest was purfled o'er with green,
And crimson rose-leaves wrought the sprigs between;
His diadem, a topaz, beamed so bright,
The moon was dazzled with its purest light.”

SCIENTIFIC ARRANGEMENT AND NAMES.

THE *Trochilidae* have been divided by modern naturalists into five sub-families and many genera, each containing numerous species. Doubtless the present arrangement will have to be considerably altered, when more is known of this beautiful family of birds; fresh species of which are constantly being discovered. Many of them present characteristics which will not allow of their being placed in any one of the existing sub-families. With Linnæus, who wrote his great work, entitled “*Systema Naturae*,” that is, the System of Nature, about one hundred years ago, this classification was an easy matter, for only a few species were then known. In 1774, when Goldsmith’s “History of the Earth and Animated Nature” was published, the knowledge of them does not appear to have much increased, for we there find it stated that “of these charming little animals there are six or seven species, from the size of a small wren down to that of an humble-bee.”

In 1824, Mr. Bullock, in a work entitled “Six Months in Mexico,” states that *only* one hundred species were in his collection, but that every day added to the number. More recently, Mr. Loddege, an eminent Nurseryman in the neighbourhood of London, who had agents in all parts of the world searching for new and rare plants, and who had also commissioned them to look out for Humming Birds, acquired by this means about two hundred species; but the collection of Mr. Gould, to which we have already alluded, contained half as many more, and to this additions are constantly made, so that there is no telling how many of these exquisitely beautiful birds may yet claim admission into the recognized family group.

Thus we learn how exceedingly numerous the Humming Birds must be; above three hundred distinct species already discovered, and that in the course of a few years; for it is only lately that the attention of scientific men has been turned to them. We should bear in mind that the whole of the Birds of Europe of every sort do not number much over five hundred species; and then the fact that the species of this one family already count up to more than half that number will appear the more striking; and then too we must remember that these birds make their homes amid swamps,

and forests, and dreary wildernesses, where the foot of man has never trodden; and that some of the discovered species being very local in their habitats, that is, confined to an area of small extent, it is likely that many of the undiscovered ones are so also, so that the number of additions to the group may be very large indeed. A writer on the subject, arguing from these and other facts, thinks that not more than two-thirds of the species have yet been registered in the pages of science.

Why, what a subject here for contemplation. Suppose we only double the present number, and say six hundred different kinds of Humming Birds; *different kinds*, each one with a distinct name, and representing a division of the great tribe, consisting of—how many?—one is afraid to calculate. And what are they created for? some wise and beneficent purpose, without a doubt; it may be to keep down the excess of insect life, which is so abundant in the warm moist climates where these birds are so numerous. But why so gloriously apparelled? Why decked with all the colours of the rainbow, and beset, as it were, with flashing and sparkling gems? This we cannot tell, but we may well believe that it was to beautify and adorn the earth, and make it a pleasant dwelling-place for man; to give him cause for gratitude and love for the Great Creator of all things.

But we were going to say a few words about the scientific arrangement of the Humming Birds, which have been divided into five sub-families, according to certain marked characteristics which they possess, as thus:—1st.—*TROCHILUS*.—Bill very straight; tail moderate, equally rounded. 2nd.—*CYANTHUS*.—Bill straight, or very slightly curved; tail very long and forked. 3rd.—*PHÆTHORNIS*.—Bill elongated and arched; tail lengthened, graduated, and cuneated, that is, shaped like a wedge. 4.—*CAMPYLOPTEROUS*.—Bill rather long and slightly curved; wings falcated, that is, bent like a hook or sickle; tail rounded or graduated. 5th.—*LAMPORNIS*.—Bill arched; tail short, nearly even, rounded, or slightly forked.

This is the arrangement of Swainson, an English naturalist, and the names of the sub-families are his; the characteristics given do not differ much from those of the French naturalists, Viellot, Audebert, and Lesson, the latter of whom had previously to Mr. Gould's publication, given to the world the most magnificent monograph of Humming Birds known.

With the numerous generic and specific names which are applied to this family, our readers need not be troubled, nor need they puzzle their brains, at present, to learn those of Swainson's subdivisions; if they bear in mind that *Trochilus* means a Humming Bird, it will be sufficient for all except scientific purposes. There

is one other term, the meaning of which they should also remember, because it refers to a very obvious distinction in the form of the bill; this is *Recurvirostris*—a recurved or turned-up beak, it is rather distinctive of a species than a genus.

The great French naturalist, Cuvier, gave to those species which have the beak much arched, the name of *Colibris*, and to those with the straight beaks, that of *Oiseaux-mouches*, or Fly-birds, and these terms are still often used. As to the common, or local names of Humming Birds, they are numerous; thus in Guiana they are called *Courberi*, which is very like the French name given above, and probably originated it. The ancient Mexicans called this bird *Hoitzitziltotoll*, or *Hoitzitziln*; some writers give it as *Huitzetzel*, and others as *Vicicilin*. The ancient Peruvian name is said to be *Quenti*, and the Spanish appellation, *Tomineios*, which latter seems to refer to the small size of the bird, *Tomin* signifying the third part of a drachm. *Ourissia* is another of their South American names, most of which have reference to the brilliancy of their appearance, or one or other of their peculiar habits; thus we find them translated into such phrases as "Rays of the sun;" "Tresses of the day-star;" "Murmuring birds," and the like. The Spanish and Portuguese call them *Pica-flores*, that is, "Pick-flowers," in allusion to their mode of feeding; and a recent traveller, who resided for a while in Mexico, states that in the neighbourhood of Xalapa in that country, they are termed *Chupa-rose* and *Chupa-myrla*—Rose-sucker and Myrtle-sucker. The Mexicans have a very poetical tradition respecting these birds, which they much admire for their boldness, dexterity on the wing, and brilliancy of plumage.

Humboldt, the great German traveller and naturalist, relates it as a point of their religious belief, that when Torqamiqui, the wife of the god of war, conducted the souls of those warriors who had died in defence of the gods, into the mansion of the sun, she there transformed them into Humming Birds. Well, therefore, might the ancient and superstitious people, among whom such a belief prevailed, look with a kind of reverence upon the winged meteors and shooting stars, which flashed and gleamed in every forest glade and every humid valley around them. It was customary with them to decorate their temples with works of art, in which the plumes of these birds were largely employed; and even in the present day some of the South American Indians compose figures of saints, etc., with these feathers, remarkable for delicacy of execution and brilliancy of colour. In the convents of Mexico, too, they make of these materials groups and sprigs of artificial flowers in a most admirable manner: some of these are, or were, in the possession of Mr. Gould.

HUMMING BIRDS.

SPECIES FIGURED.

AZURE-CROWNED.

PLATE I.—FIG. 1.

TROCHILUS QUADRICOLOR is the scientific name of this very beautiful species, which is found chiefly in Brazil; the form is more long and slender than that of most Humming Birds; it generally measures about three inches and three-quarters in length. It has a long straight bill, rather enlarged at the base, of a clear yellow, except at the tip, where it is black. Over the top of the head is what looks like a cap of brilliant blue; this extends a little way down the back, and then gradually changes into a rich metallic green, which again fades off into a purplish brown, of which colour are the larger wing and tail feathers, the latter having a greenish reflection on their upper sides. The throat, the breast, and all under parts of the body are a pure white. The wings are large and long, projecting, when closed, as far back as the tail, which is composed of broad strong feathers.

In young birds the colours are less pure, the upper parts having a greyish tinge, and the white below being somewhat mixed with brown; the bill, too, has a dull appearance, and the beautiful azure crown, which distinguishes the species, is altogether or nearly wanting; this only makes its appearance as age advances. The legs of this bird are remarkably short, but the toes are long, and well adapted for grasping the stems of the plants on which it frequently alights.

The name *quadricola*, or four-coloured, is given to it on account of the four prevailing tints of its plumage—brown, green, blue, and white.

WHITE-EARED.

PLATE I.—FIG. 2.

Trochilus leucotis is the scientific name of this species; the latter term comes from a Greek root, and signifies white-eared. The bird, you will perceive, has a distinct white mark extending from the eye to the back of the neck, and curving round so as to connect itself with the upper margin of the bright emerald green breast-plate, or gorget, as it may be termed; the top of the head is of a brownish violet tint, glossed with green, and tinged on the forehead and all around the base of the yellowish bill with a rich blue, which becomes more brilliant on the cheeks and throat; the back and the under part of the body is a glossy reddish brown, which is also the colour of the tail feathers, except where they have a lining of delicate white; the larger wing feathers are grey with a tinge of green. The total length of this elegant bird is about three inches; it has a long and slender bill, and the tail, when spread out, is broad and fan-like.

It is a Brazilian species, and appears to be very rare. We have met with no account of its peculiar habits.

A near relative of this bird's being placed in the same genus, called *Thaumatius*, is the *Trochilus Milleri*, or "the Pick-flower of the Cordillerus," as the natives call it. This species is found only in the elevated valleys of the Andes, where it makes its home amid storms of hail, rain, and thunder, where one would little expect to find so delicate a creature. It feeds much upon small flies, which it takes upon the wing along the margins of the mountain rivulets, chiefly just about eventide, which is a remarkable circumstance.

B21



DOUBLE-CRESTED.

PLATE II.—FIG. 1.

Trochilus cornutus, from the Latin *cornu*—a horn, in reference to the two horn-like projections which issue from either side of the head, forming a pair of flattened crests, composed each of six feathers, that, flashing and gleaming with every motion of the bird, look like quivering tongues of flame; their colour is crimson, edged and tipped with the brightest yellow, and all over the forehead between them are scaly feathers that now flash out green as an emerald, and now shine with a more softened azure; below the level of the eyes the colour deepens to a full rich purple, which covers the sides of the head, and extends a considerable distance down the breast, forming a distinct line, and offering a strong contrast to the pure white which covers the upper part of the belly, and all between the head and the bases of the wing feathers, which are greyish brown, tinged here and there with green, as is also the under part of the body. The tail is long and wedge-shaped, the two centre feathers brown, the rest pure white; the wings, when closed, curve up in shape like the Turkish weapon called a scimitar. Four inches is about the length of this splendid species, the tail measuring nearly half; the body is of an elegant shape, long and slender, the bill and feet are remarkably so, the former being slightly bent upward, and terminating in a fine point.

This bird inhabits what are called the *Campos-Geraes* of Brazil—the high lands near the sources of the River Don Francisco. It was first discovered by a German traveller, Prince Maximilian, of Wied-Neuwied, who described it in his “*Voyage to Brazil*,” and gave it the scientific name which it now bears.

The female of this species is perhaps more elegant in shape than even the male, and the colours of her plumage are almost equally brilliant, but she has not the splendid crests which so adorn and distinguish her beautiful partner.

VIOLET-EARED.

PLATE II.—FIG. 2.

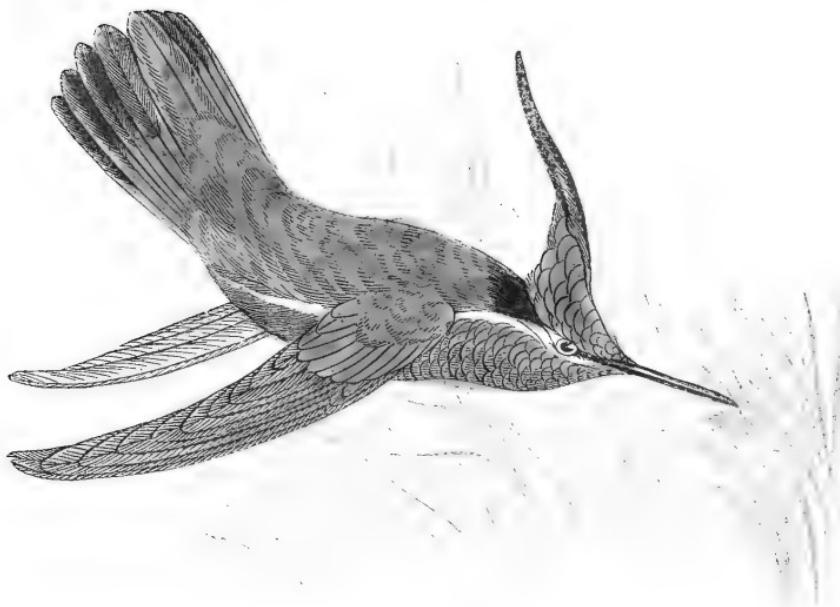
Trochilus auritus, from the Latin *auris*, an ear, given to the species on account of the distinct patch, of a deep lustrous violet-colour, which extends from beneath the eye far down the side of the head, being composed of what are called the auricular, or ear feathers; it is of a pear-shape, and gives a singular appearance to the bird, which is more stoutly built than most members of the graceful family to which it belongs. Golden green, inclining in places to violet, is the prevailing colour of the plumage of the upper part of the body; the under parts are generally of a snowy whiteness; purple and slaty blue are the colours of the tail, which is broad and short. Brazil and Guiana are the countries in which this species has been found; it is thought to be the same as that described by Lesson under the name of *Ornismya nigrotis*.

There are as many as eight other Violet-eared species of Humming Birds known and described, but they belong to a different genus, called *Petasophora*; they have mostly long slender bills, tails nearly square, and brilliant violet blue scal-like neck feathers, which project on either side. Green is the prevailing colour of the plumage of these handsome birds, with purple and golden-brown marks and reflections.

TUFTED-NECKED.

PLATE III.—FIG. 1.

Trochilus ornatus. Commend us to fine clothes and plenty of rich jewelry: if this be not a little feathered beau we never saw one. Well may his name be *ornatus*—the ornamented. Look at that ample crest, of a clear reddish chesnut, shining like satin, and covering nearly all the top of the head. See the forehead and back parts of the throat, and upper part of the breast, all ablaze with gleaming emeralds closely set, as it seems, upon a ground of purple velvet; from the golden bill extends a strip of a paler colour, which passing round, and



1. Tufted-necked. 2.

so enclosing the bright restless eyes, is continued down each side till it meets another strip of the same colour as the tuft, which encircles the breast like a ribbon, and separates between the green gorget and the plumage of the other part of the breast and belly, which is first of a pale yellowish tint, and then a bronzed green, with slate-blue reflections; this colour extends over the greater part of the wings and the back, but it is separated from the tail, which is broad and ample, of a chesnut, intermingled with green and blue, by a plainly-marked band of greyish white.

But the most curious parts of this gay costume are the tufts, about an inch long, which adorn the sides of the neck, looking as if they were fastened on to the narrow bands which enclose the throat and upper part of the breast; they are composed of from ten to twenty plumes of different lengths, and of the same colour as the crest; but then to give variety and richness to the effect, each of them has a broadened tip of clear shining green, as though some of the emeralds of which the gorget was composed, had been reserved and fastened there.

A celebrated writer of the present day tells us of a beau who went to see the play, and having a great quantity of false jewelry, wore it all because it cost him no more to do so than to leave it at home. Our feathered beau seems to have followed his example, only he had this advantage—all that he wears is real and natural; and bright and varied as are the colours, rich and dazzling the gleam and glitter, yet what is there which seems offensive to good taste? though fully dressed, he is not over-dressed; though highly ornamented, not more so than one thinks he should be. And his little wife! what of her? is she as gaily attired? Not quite; she wants the crest and the tufts, but the rest of her plumage is almost as resplendent, and then she has a bright red stomacher on, and is altogether a very gay body you may be sure, or she would not suit such a smart gentlemen as Mr. Ornatus. These tufted birds, of which there are several species, (one we have before described, see Plate II.) are called by the French coquettes. The naturalist Lesson has formed them into a separate genus called *Lophornis*. Cayenne, Guiana, and Brazil are the countries where this species is most abundant; it is found chiefly on dry plains, where the vegetation is scanty and bushy.

DELALANDE'S.

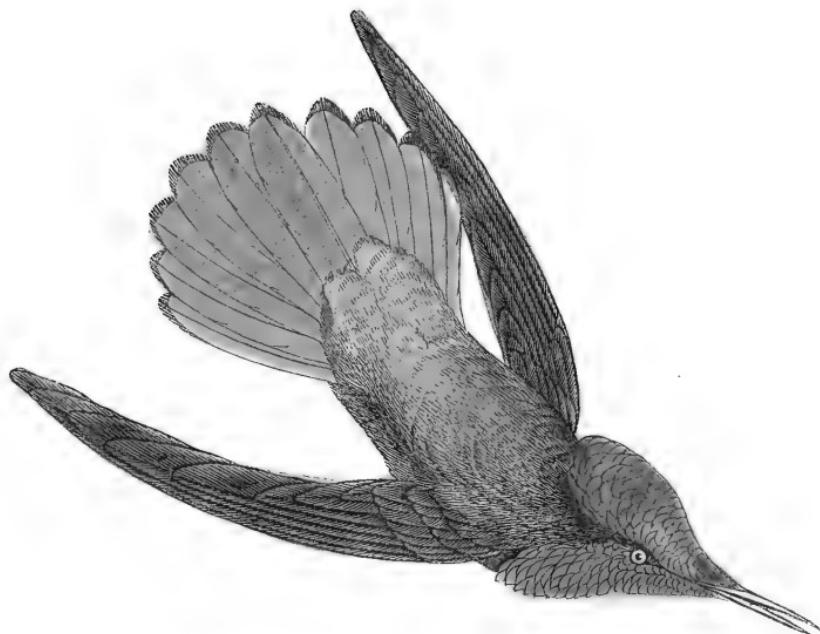
PLATE III.—FIG. 2:

Trochilus Delalandi. We have here another Brazilian species, named after its discoverer, M. Delalande; it is chiefly remarkable for its curious crest, all the feathers of which are short except one, which rises from the centre like a horn, curving outward; the colour of this crest is a rich deep blue, tipped with white; it can be erected or folded back at the pleasure of the bird, whose plumage is chiefly blue and green and purplish brown, relieved by grey and white, the latter forming a very conspicuous circular patch just behind the eye, including the auricular, or ear feathers; the extremities of the larger tail feathers are also white. The female is without the crest, and her colours, although generally the same, are less brilliant than those of her mate; the under parts of the body are mostly of a soft grey tint, which is very pleasing to the eye.

Another Humming Bird with a somewhat similar crest, but of a lilac colour, has been discovered in a province of Brazil, called Rio Grande, and named after Mr. Lodiges, an eminent English collector of these feathered gems; it has been proposed to form them into a genus with the name *Cephalepis*.

These birds are generally called Plover-crests, on account of the peculiar form of the head ornaments; they are a very elegant species; in the male of *Delalandi*, figured in Mr. Gould's monograph, the crest is a rich metallic green, and the single feather that shoots up like a horn, is purple; the nest represented is a beautiful structure, woven of fine fibrous roots, gay-coloured mosses, and the heads of flowering plants, matted together with fine cobwebs, and suspended among the smaller twigs of a kind of bamboo; its shape is something that of a funnel, without the pipe.





RUBY-CRESTED.

PLATE IV.—FIG. 1.

Trochilus moschitus. We do not understand what can be the origin of this specific name. *Moschatus* is the Latin for a nutmeg, and *moschus* for musk; but what can either of these have to do with this beautiful bird is not at all clear. It may, perhaps, manifest a partiality for the nutmeg trees which grow in the West India Islands, in most of which the bird is common, as well as in many parts of the continent of South America. It is about three inches and a half long, and is remarkable for the brilliancy of its colours. The crest, from which it takes its name, is short and rounded, being merely a slight elongation of the feathers on the hind part of the head. Viewed in one position it appears of a dull reddish brown, in another a bright coppery lustre plays over it; and if looked down upon, it becomes a rich ruby red; so it is with the scaly part of the throat and breast, which in some lights assumes a sombre greenish brown colour, which changes with every shift of position from a clear golden green to a bright yellow, with a gleam like that emitted by the precious stone called a topaz; the rest of the plumage is a rich brown, with here and there red and purple shadings, and glosses of green; the tail is broad and fan-like, and has a narrow band of a dark shade along the tips of the feathers; sometimes the back around the ruby crest is so dark as to look like a black band. The female is scarcely so large as the male, and has a dress of golden green above, and greyish brown beneath; the tail is very different, each feather being tipped with white, and bronzed over in places with green.

This species builds a remarkably warm and compact nest, generally of cottony substance, patched on the outside with lichen.

NORTHERN, OR RUBY-THROATED.

PLATE IV.—FIG. 2.

Trochilus colubris. This is a common and hardy species of Humming Bird; it is found in North America, and its habits have been more fully described than those of any other kind. The naturalist Audubon has observed it very closely, and from him, as well as from Wilson, we shall quote somewhat largely. But first as to its name, why *colubris*? We find that in Latin *colubrinus* means relating to or like a serpent, cunning, crafty. Let us see if there is anything in the character of our little Hummer which justifies such a title. His shape, we may observe, is slender and graceful; his colours brilliant, those of his breast covering especially, so constantly changing from a rich ruby glow to a burning orange, a fiery crimson, and even a deep glossy black, according to the light in which they are viewed. The whole upper part of the head and body is a fine golden green; the tail and wings are purplish brown, and the under parts of the body are dusky white, shaded with green; the breast feathers, about which the metallic tints shift and play like flashes of coloured light, are singularly fine and close of texture, so that they overlay each other like burnished scales. The female has not this beautiful gorget, nor have the very young birds: the red feathers begin to appear in autumn, and only shine forth in their full splendour until the following spring; then, indeed, it must be a treat to watch them, as Audubon did, in the full enjoyment of life and liberty. Speaking of this species, he says,—

“No sooner has the returning sun again introduced the vernal season, and caused millions of plants to expand their leaves and blossoms to his genial beams, than the little Humming Bird is seen advancing on fairy wings, carefully visiting every opening flower-cup, and like a curious florist, removing from each the injurious insects which would otherwise, ere long, cause the beauteous petals to droop and decay. Poised in the air, it is observed peeping cautiously, and with sparkling eye, into their innermost recesses, whilst the ethereal motions of its pinions, so rapid and so light, appear to fan and cool the flower without injuring its fragile texture, and produce a

delightful murmuring sound, well adapted for lulling the insects to repose. Then is the moment for the Humming Bird to secure them. Its long delicate bill enters the cup of the flower, and the protruded double-tubed tongue, delicately sensible, and imbued with a glutinous saliva, touches each insect in succession, and draws it from its lurking-place to be instantly swallowed.

The prairies, the fields, the orchards and gardens, nay, the deepest shades of the forest are all visited in their turn, and everywhere the little bird meets with pleasure and with food. Its gorgeous throat, in beauty and brilliancy, baffles all competition; now it glares with a fiery hue, and again it is changed to the deepest velvety black. The upper parts of its delicate body are of resplendent changing green, and it throws itself through the air with a swiftness and a vivacity hardly conceivable. It moves from one flower to another like a gleam of light—upwards, downwards, to the right, and to the left. In this manner it searches the extreme northern portions of our country, following with great precaution the advances of the season, and retreating with equal care at the approach of autumn.

Where is the person who, on seeing this lovely little creature moving on humming winglets through the air, suspended, as by magic, on it; flitting from one flower to another, with motions as graceful as they are light and airy; pursuing its course over our extensive continent, and yielding new delights wherever it is seen; where is the person, I ask, who, on observing this glittering fragment of the rainbow, would not pause, admire, and instantly turn his mind with reverence towards the Almighty Creator, the wonders of whose hand we at every step discover, and of whose sublime conceptions we everywhere observe the manifestations in His admirable system of creation?"

This is a teacher of the right sort, and we would gladly hear more of what he has to say about our little Ruby-throat; but we must now turn to Wilson's description, which is more full and connected, and better adapted to the instructive purpose of this book. After speaking of the hardihood of the present species, and stating that "it bears a range of temperature almost from tropical heat to the rigour of an arctic latitude;" and mentioning the different dates of its arrival in several parts of North America, he tells us "that it usually

arrives in Pennsylvania on the 25th. of April, and begins to build its nest about the 10th. of May." From this we learn that the bird is *migratory*, as many of the birds in this country are; that is, it does not remain all the year through in one place, but leaves, as the severe weather comes on, for some warmer climate, where food may be more abundantly found. Hundreds of miles do these little travellers fly; often through tempestuous skies, and over stormy seas; and it is wonderful to remark how directly they make their way to the desired spot. They have no mariner's compass, nor any other means of guidance; no reason to tell them that in this or that quarter of the heavens their homes and safety lies; but God teaches them when to fly, and whither to direct their flight; He has given to them a power—a kind of sense, which we call *instinct*, from the Latin *instinctus*—inwardly moved—and they *know* that they are to do this or that, to go in one or another direction, without at all understanding *why*, as a reasonable being like man does. And so, Master Ruby-throat, having obeyed the command of this voice within, which said "Up and away to the savannahs of the north, to the cotton-fields of Georgia, and the rice-swamps of Carolina, and the gardens of fruitful Pennsylvania," has *migrated*, that is, passed from one place of residence to another—the word comes from *migro*—to pass—and now we find him building a new house, and making himself quite at home.

This house, or nest, we are told by Mr. Wilson, "is generally fixed on the upper side of a horizontal branch, (that is, one that projects straight out,) not among the twigs, but on the body of the branch itself. Yet I have known instances where it was attached by the side to an old moss-grown trunk; and others where it was fastened to a strong rank stalk, or weed in the garden; but these cases are rare. In the woods it very often chooses a white oak sapling to build on; and in the orchard, or garden, selects a pear tree for that purpose. The branch is seldom more than ten feet from the ground. The nest is about an inch in diameter, (that is, across,) and as much in depth. A very complete one is now lying before me, and the materials of which it is composed, are as follows:—The outward coat is formed of small pieces of bluish grey lichen, that vegetates on old trees

and fences, thickly glued on with the saliva (or spittle) of the bird, giving firmness and consistency to the whole, as well as keeping out moisture. Within this are thick matted layers of the fine wings of certain flying seeds, closely laid together; and lastly, the downy substance from the great mullien, and from the stalks of the common fern, lines the whole. The base of the nest is continued round the stem of the branch, to which it closely adheres; and, when viewed from below, appears a mere mossy knot, or accidental protuberance.

The eggs are two, pure white, and of equal thickness at both ends. On a person's approaching their nest, the little proprietors dart around with a humming sound, frequently passing within a few inches of one's head; and should the young be newly hatched, the female will resume her place on the nest, even while you stand within a yard or two of the spot. The precise period of incubation, (that is, sitting on the eggs,) I am unable to give, but the young are in the habit, a short time before they leave the nest, of thrusting their bills into the mouths of their parents, and sucking what they have brought them. I never could perceive that they carried them any animal food; though from circumstances that will presently be mentioned, I think it highly probable that they do. As I have found their nests with eggs so late as the 12th. of July, I do not doubt but they frequently, and perhaps usually, raise two broods in the year.

The Humming Bird has, hitherto, been supposed to subsist altogether upon the honey, or liquid sweets, which it extracts from flowers. One or two curious observers have indeed remarked that they have found evident fragments of insects in the stomach of this species; but these have been generally believed to have been taken in by accident. The few opportunities which Europeans have of determining this point by observations made on the living bird, or by dissection of the newly-killed one, have rendered this mistaken opinion almost general in Europe. For myself, I can speak decisively on this subject: I have seen the Humming Bird for half an hour at the time, darting at those little groups of insects that dance in the air on a fine summer evening, retiring to an adjoining twig to rest, and renewing the attack with a dexterity that sets all other fly-catchers at defiance. I have opened, from

time to time, great numbers of these birds, have examined the contents of the stomach with suitable glasses, and in three cases out of four have found them to consist of broken fragments of insects. In many subjects entire objects of the coleopterous (that is, beetle) class, but very small, were found unbroken. It is well known that the Humming Bird is particularly fond of tubular flowers, where numerous small insects of this kind resort to feed on the farina, etc.; and there is every reason for believing that he is as often in search of these insects as of honey, and that the former compose at least as great a portion of his usual sustenance as the latter. If this food be so necessary for the parents, there is no doubt but the young also occasionally partake of it.

The flight of the Humming Bird from flower to flower greatly resembles that of a bee; but is so much more rapid, that the latter appears a mere tortoise to him. He poises himself on wing, while he thrusts his long, slender, tubulous tongue into the flowers in search of food. He sometimes enters a room by the window, examines the bouquets of flowers, and passes out by the opposite door or window. He has been known to take refuge in a hot-house during the cold nights of autumn, to go regularly out in the morning, and to return as regularly in the evening for several days together.

To enumerate all the flowers of which this little bird is fond would be to repeat the names of half of our American flora. From the blossoms of the towering poplar, or tulip tree, through a thousand intermediate flowers, to those of the humble larkspur, he ranges at will, and almost incessantly. Every period of the season produces a fresh multitude of new favourites. Towards the month of September there is a yellow flower, which grows in great luxuriance along the sides of creeks and rivers, and in low moist situations; it grows to the height of two or three feet, and the flower, which is about the size of a thimble, hangs in the shape of a cup of liberty above a luxuriant growth of green leaves. It is the *Balsamma noli me tangere* of botanists, (the Yellow Balsam, or Touch-me-not; so called on account of the violence with which the seeds are thrown out of the capsule when ripe,) and is the greatest favourite with the Humming Bird of all our flowers. In some places where these plants abound, you may see at one time

ten or twelve of the birds darting about, and fighting with and pursuing each other."

Of plants that have long tube-shaped blossoms does the Ruby-throated Hummer appear especially fond. Wilson thus describes his manœuvres among the blossoms of the Trumpet-flower:— "When arrived before a thicket of these that are full-blown, he poises, or suspends himself on wing for the space of two or three seconds so steadily that his wings become invisible, or only like a mist; and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection; the glossy golden green of his back, and the fire of his throat dazzling in the sun. When he alights, which is frequently, he always prefers the small dead twigs of a tree or bush, where he dresses and arranges his feathers with great dexterity. His only note is a single chirp, not louder than that of a small cricket or grasshopper, generally uttered while passing from flower to flower, or when engaged in fights with his fellows; for when two males meet at the same flower or bush a battle instantly takes place; and the combatants ascend in the air, chirping, darting, and circling round each other, till the eye is no longer able to follow them. The conqueror, however, generally returns to the place to reap the fruits of his victory. I have seen him attack, and for a few moments tease, the King-bird; and have also seen him in his turn assaulted by a humble-bee, which he soon put to flight. He is one of those birds which are universally beloved; and amidst the sweet dewy serenity of a summer's morning, his appearance among the arbours of honeysuckles and beds of flowers is truly interesting.—

"When morning dawns, and the blest sun again
Lifts his red glories from the eastern main,
When through our woodbines, wet with glittering dews,
The flower-fed Humming Bird his round pursues;
Sips, with inserted tube, the honey'd blooms,
And chirps his gratitude as round he roams;
While richest roses, though in crimson drest,
Shrink from the splendour of his gorgeous breast,
What heavenly tints in mingled radiance fly!
Each rapid movement gives a different dye;
Like scales of burnished gold they dazzling shew,
Now sink to shade—now like a furnace glow."

One cannot wonder that many persons should have desired

to make domestic pets of these beautiful little birds, nor that much pains should have been bestowed to rear them from the nest, and accustom them to a life of confinement; these efforts have been sometimes successful; thus Mr. Wilson relates that "a gentleman of Virginia, who had paid great attention to the manners and peculiarities of American birds, told me that he raised and kept two of this species for some months in a cage, supplying them with honey dissolved in water, on which they readily fed. As the sweetness of the liquid frequently brought small flies and gnats about the cage and cup, the birds amused themselves by snapping at them on wing, and swallowing them with eagerness, so that these insects formed no inconsiderable part of their food."

Mr. Charles Wilson Peale, proprietor of the Museum, tells me that he had two young Humming Birds, which he raised from the nest. They used to fly about the room, and would frequently perch on Mrs. Peale's shoulder to be fed. When the sun shone strongly into the chamber, he has observed them darting after the motes that floated in the light, as Flycatchers would after flies. In the summer of 1803, a nest of young Humming Birds was brought me that were nearly fit to fly. One of them actually flew out by the window the same evening, and falling against a wall was killed. The other refused food, and the next morning I could but just perceive that it had life. A lady in the house undertook to be its nurse, placed it in her bosom, and as it began to revive, dissolved a little sugar in her mouth, into which she thrust its bill, and it sucked with great avidity. In this manner it was brought up until fit for the cage. I kept it upwards of three months, supplied with loaf-sugar dissolved in water, which it preferred to honey and water, gave it fresh flowers every morning, sprinkled with the liquid; and surrounded the space in which I kept it with gauze, that it might not injure itself. It appeared gay, active, and full of spirits, hovering from flower to flower, as if in its native wilds, and always expressed by its motions and chirpings great pleasure at seeing fresh flowers introduced into its cage. Numbers of persons visited it from motives of curiosity; and I took every precaution to preserve it, if possible, through the winter. Unfortunately, however, by some means it got at large, and flying about the room, so injured itself, that it soon after died.

This little bird is extremely susceptible of cold, and if long

deprived of the animating influence of the sunshine, droops and soon dies. A very beautiful male was brought me this season, (1809,) which I put into a wire cage, and placed in a retired and sheltered part of the room. After fluttering about for some time, the weather being uncommonly cool, it clung by the wires, and hung in a seemingly torpid state for a fortnight. No motion whatever of the lungs could be perceived on the closest inspection, though at other times this is remarkably observable; the eyes were shut; and when touched by the fingers it gave no signs of life or motion. I carried it out to the open air, and placed it directly in the rays of the sun, in a sheltered situation. In a few seconds respiration became very apparent; the bird breathed faster and faster, opened its eyes, and began to look about, with as much seeming vivacity as ever. After it had completely recovered, I restored it to liberty; and it flew off to the withered top of a pear tree, where it sat for some time dressing its disordered plumage, and then shot off like a meteor."

Some more interesting particulars relating to this and other North American species, will be found in the beautiful "story of the Humming Birds" at the end of the volume. We need now only observe that the Ruby-throat is about three inches and a half long, and four inches and a quarter in the spread of its wings. It generally retires from the north to the southern parts of America towards the latter end of September, passing the boundary of the United States into Florida about the beginning of November.

Speaking of the cold latitudes, such as Canada, in which it is sometimes found, Wilson observes, "The wonder is excited how so feebly-constructed and delicate a little creature can make its way over such extensive regions of lakes and forests, among so many enemies, all its superiors in strength and magnitude. But its very minuteness, the rapidity of its flight, which almost eludes the eye, and that admirable instinct, reason, or whatever else it may be called, and daring courage, which heaven has implanted in its bosom, are its guides and protectors."

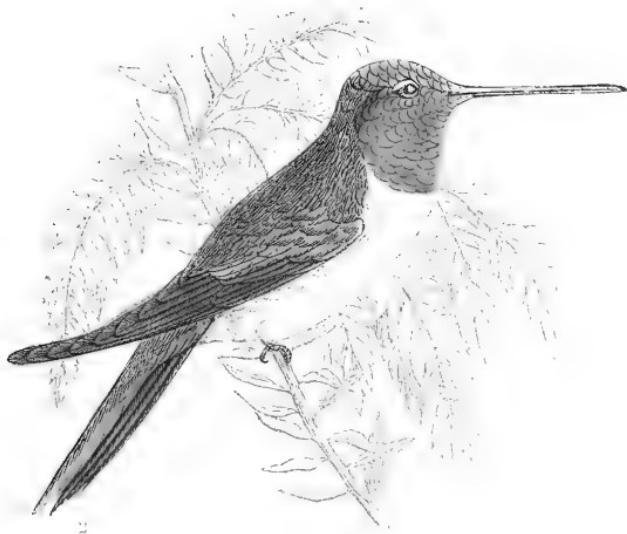
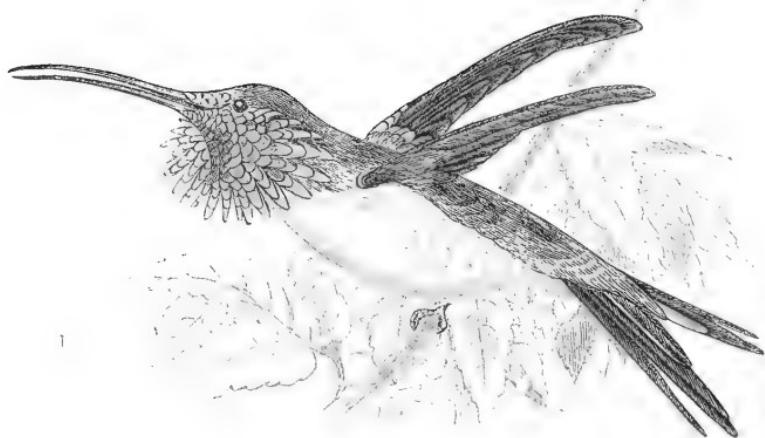
BLUE-THROATED.

PLATE V.—FIG. 1.

Trochilus lucifer. This is a very curious little bird, and the naturalists, we may see, have given it as curious a title, that is, some of them have, for in this, as in most other species of birds, and indeed, of everything else, there is a diversity of nomenclature, that is, of naming; the word coming from the Latin *nomen*—a name. Lesson calls this pretty Blue-throat *Trochilus cyanopogon*; this term is of Greek origin, and means the same as *cyanean*—having an azure colour; so that it is appropriate enough. But what shall we say of *lucifer*, which is a name of the Evil one? Can that be appropriately applied to a beautiful bird? Yes, for it is also the name of a star, and the Blue-throated Hummer is star-like in brilliancy; properly, Lucifer signifies the light-bringer, and it is the morning-star which is so called; and this tiny forked-tailed *Cyanthus* comes like a flash of light from out the shades of the Mexican forests, when the day breaks in all its glory and splendour upon the south-western continent.

It is a bird of a slender form with a very long bill; bright yellowish green is the colour of the head and upper parts of the body; the under parts are white tinged with green; the throat and fore part of the neck are covered with lengthened plumes of a rich violet-colour, which changes into red or blue, according to the position in which it is viewed; these feathers projecting considerably from what appears a beautiful ruff, or frill, attached to the throat.

The habits of this species are but little known; it is placed by some naturalists in the genus *Calothorax*, to which belong the beautiful Wood-stars, with their resplendent throats and queer little tails, which look as if the smaller feathers had been picked out, and only the larger ones left, projecting like short spikes; with the hen-bird this is not the case.



1. Blue-throated. 2. Amethyste.

AMETHYSTINE.

PLATE V.—FIG. 2.

Trochilus amethystinus. The amethyst is a precious stone of a purplish violet-colour; and when this species is in full plumage it has a patch on the throat almost as rich and lustrous as the gem itself. Indeed, there are three or four species which are so distinguished, and these are generally known as "the Amethysts," and so spoken of, just as people would speak of "the Browns," and "the Smiths," only the birds are not nearly so common as the people with those names. Let us introduce our readers to the members of this beautiful little family group. There is the Even-tailed Amethyst, (*T. orthura*,) the Wedge-tailed Amethyst, (*T. montana*,) the Little Amethyst, (*T. Amethystoides*,) and the one above named, which might well be called the Forked-tailed Amethyst.

These are all birds of remarkably rich plumage and elegant form; golden green is the prevailing tint of the upper parts of the body, with glosses of purple on the head, wings, and tail; underneath they are generally white, more or less clouded with grey, or tinged with red and green; the amethystine patch in all is bordered by a band of pure white, which forms a distinct division between it and the lower part of the breast. These birds vary in size from two inches and a half to three inches; they are found in Mexico, Brazil, Cayenne, Guiana, and other parts of South America. The one figured is perhaps the most elegant of the group; it is nearly related to the Ruby-throated Humming Bird, which naturalists call *T. rubineus*, and which is a native of the Brazils.

Tryphæna is the generic name given by some naturalists to these birds; in all the species the males and females differ considerably, the latter having the tail even, or nearly so, and the former much forked, the outer feathers on each side being indented near the tip, so as to form something like a racket-tail.

DUPONT'S.

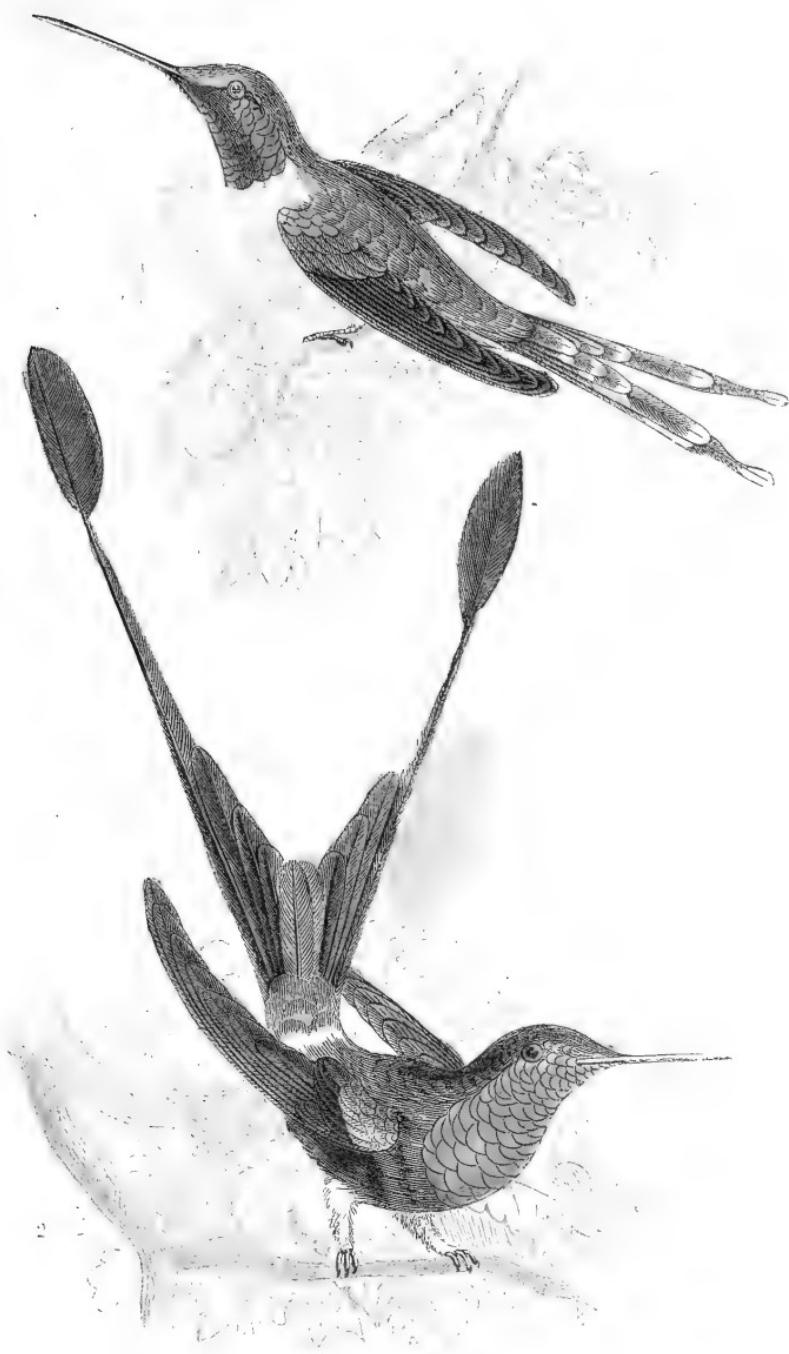
PLATE VI.—FIG. 1.

THIS is a bird of a very slender and elegant form; it is named *Trochilus Dupontii*, after M. Dupont, a French naturalist, in whose possession is, or was, the only known specimen. It appears to be a native of Mexico, where, especially about the city of Guatemala, it is said to be tolerably abundant, frequenting the gardens, and even the houses of the inhabitants, where there are flowers to attract its presence. M. Lesson states that the French name Zémès has been given to these birds, from the idols so called, which were formerly worshipped by the Mexicans.

"This species," says Mr. Gould, who calls it the Sparkling-tail, and places it in the genus *Tryphæna*, "if it be not one of the most gaily coloured, is certainly one of the most beautiful of the smaller members of the *Trochilidæ*; it is no less interesting from the elegance and just proportions of its form, than for the singularly varied style of its plumage."

The male bird, whose total length is about four inches, of which the tail occupies two, has the plumage of the head and back of a shining bronzy green; the wings are dark purplish brown; the throat a rich deep blue; across the breast is a broad band of white, which extends up on either side like the points of a crescent; the belly and tail coverts are also green, with a bronzy reflection, and another patch of white occurs just beneath the insertion of the tail, which has been called 'sparkling,' on account of being barred and variegated with white and reddish brown, but chiefly the former.

The female is a very different looking bird, having a short tail, and nearly all the under part of the plumage a light reddish brown; the rich purple throat is also wanting. The same kind of indentation at the terminations of the two longest tail feathers occur in this species, as in the one last described, and on account of this, and other peculiarities of structure, it has been placed in the same genus as the Amethystine bird.



1. Dupont's. 2. Green's.

RACKET-TAILED.

PLATE VI.—FIG. 2.

Trochilus platurus. Whenever you see a word with the prefix *plat*, you may be sure it has reference to something broad or spreading in the form or nature of it. This little bird has a tail which spreads out very much, the feathers being pointed, and gradually lengthening from the centre to the two outer ones, which are much longer than the rest; and after projecting a considerable distance, bare of web, they finish off in oval tips, in shape like racket-boards, hence the common name of the species.

A dull green, with purple shades and reflections, is the uniform colour of this bird; there is a little white about the base of the tail and under parts of the body; the scaly feathers of the breast are of a bright emerald green. A very pretty and interesting species this, but not much known. Guiana is the only country from whence it has been sent to Europe.

There is a species still more rare, which has this peculiar form of tail, namely, the Rough-legged Racket-tailed Humming Bird, in Latin *Trochilus Underwoodii*; its discoverer was probably a Mr. Underwood. It is remarkable for having the thighs and *tarsi*, that is, the lower joints of the legs, thickly covered with narrow horny plumes; it has, in fact, feathered legs, like some kinds of poultry and other birds have; but these leg-coverings are very different from the little downy balls, like minute powder-puffs, which some Humming Birds carry about under their bodies.

To the Racket-tailed group of Humming Birds the generic term *Spathura* has been applied; this term, like *platurus*, has reference to the flattened or spreading terminal feathers of the tail, which, during the flight of the bird, are in a constant state of vibration. There are three species of this genus described by Mr. Gould, the first of the above-named, which he calls the Peruvian; the second, the White-booted; and a third, the Red-booted Racket-tail: they all appear to be peculiar to the Cordillerus; the females are without the long tail appendages.

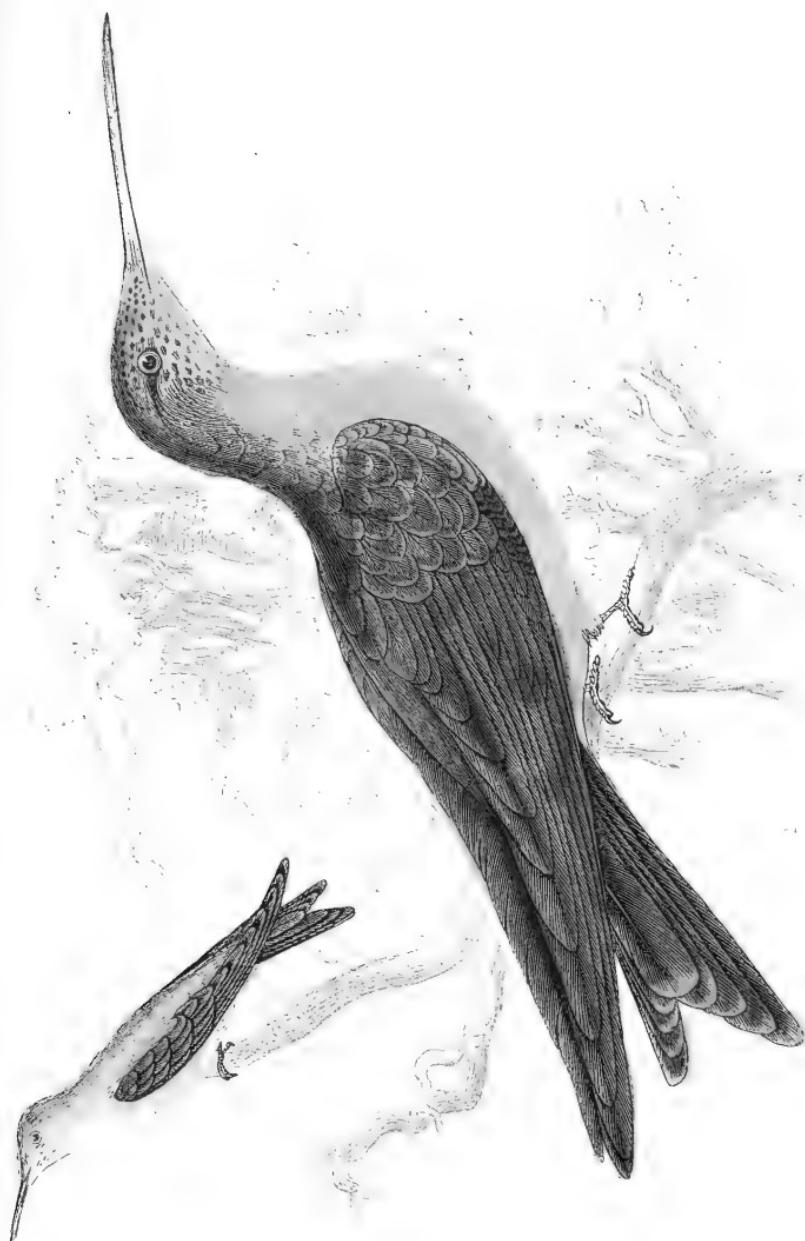
PIGMY.

PLATE VII.—FIG. 1.

THE scientific name of this beautiful little bird, one of the smallest of the family, is *Phæthornis Pygmæus*, the first being the title applied to the Hermit genus, of which about twenty-five distinct species are known; they are mostly found in Brazil, Bolivia, Columbia, and Eucador. One distinctive mark of this genus is the peculiar formation of the tail, which, when spread out, resembles an elegant hand-screen, with deeply-indented edges, which are usually bordered with white or buff, or some other light colour, rendered very conspicuous by the dark tint on which it is set; the two centre feathers in nearly all the species are much larger than the rest, and these may represent the handle of the screen. With the Pigmy this peculiarity of formation is not so marked as in some other species.

This tiny bird inhabits chiefly the southern provinces of Brazil; it is tolerably abundant in that of Rio de Janeiro. It makes a beautiful nest of the woolly fibres of flowering plants, and decorates it on the outside with seeds and other vegetable substances of gay colours. This structure is often suspended to the end of a flag, or some other broad-leaved plant, and there the mother-bird sits and swings perfectly secure from four-footed enemies, while her sprightly mate flits about in the sunshine, and now and then perches close by to cheer her with a gentle twitter.

The Hermits generally are not remarkable for brilliancy of colour in their plumage; they have not those bright metallic tints which give such resplendency to many Humming Birds, yet is there much of richness and diversity in their dresses, sober and subdued as they are, and ought to be in conformity with their name. They have long arched bills, and in some species the feathers of the throat are loose, and project considerably, so as to give the head a very curious appearance. The Hermits, as we have observed, are fond of attaching their nests to broad pendulous leaves, frequently over water, which they almost touch; and in Gould's monograph we have some charming pictures of them in these situations.



GIGANTIC.

PLATE VII.—FIG. 2.

Trochilus gigas. This, as far as size is concerned, is the King of the Humming Birds; it is the largest that has been discovered, its length being nearly eight inches. It inhabits the forests in the interior of Chili, and may be found in all the country extending from thence to the foot of the mountain range called the Andes. It was at first supposed to be an inhabitant of Brazil, and may be so, but of the few specimens that have been brought into Europe, none have come from that country. It is rather a stoutly-made bird, with large wings and a broad forked tail; the bill is long, and swells out rather as it approaches its termination. The crown of the head, back, and wing coverts are brownish green, with reflections of the latter colour; the under parts of the body are a light brownish red, shaded with green, and this tint extends up the cheeks and over the base of the bill; all through these parts the feathers present a waved or mottled appearance, on account of being lighter at the tips than they are at the bottoms. The wings are purplish brown, as is the tail, with golden green reflections, having the appearance of bronze; there is not that metallic brilliancy on the throat remarkable in most Humming Birds, although the feathers are close and scaly. The females and young birds are said to differ from the full-grown male, in having the feathers of the upper parts bordered with pale red, and those on the breast and belly tipped with white: there is also some pure white about the tail.

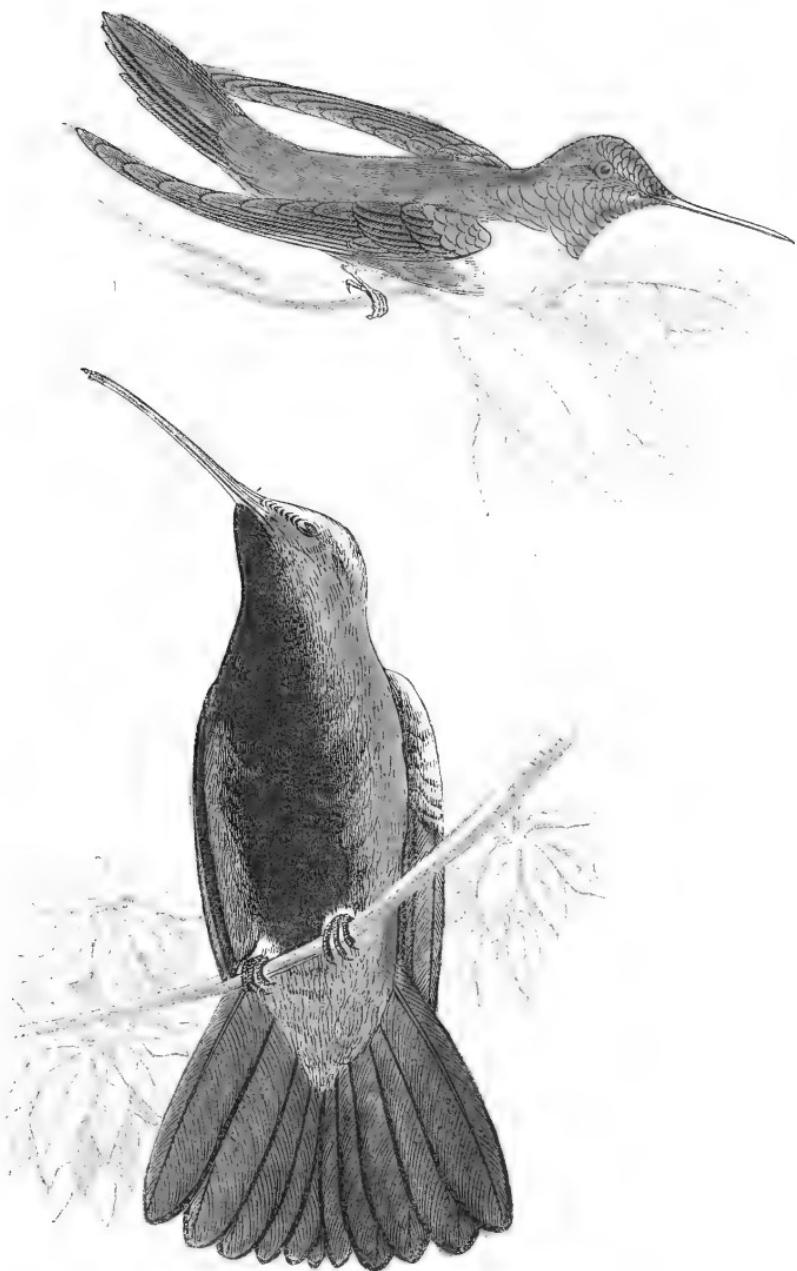
It has been observed that, in its general contour, this bird is much like the Swift, than which, however, the bill is considerably longer, and the body stouter; it is evidently a very strong flyer, as its extended range would indicate. It appears to be migratory, passing, according to Beechey, from the parched deserts of the north, a little before the vernal or spring equinox, for the purpose of breeding in Chili, where it is called the *Picaflor grande*, or Great Pick-flower. At present it is the only representative of the genus *Patagona*.

RUFF-NECKED.

PLATE VIII.—FIG. 1.

Trochilus rufus. The English people once had a king who was called William Rufus, and no doubt our readers are aware that he was so called on account of the red colour of his hair—*rufus* being the Latin for red, and this is the prevailing colour of the plumage of the elegant little Noothe, or Humming Bird of Nootka Sound, where it was first observed by our great navigator, Captain Cook, who makes the following observations on it:—“There are also Humming Birds which yet seem to differ from the numerous sorts of this delicate animal already known, unless they be a mere variety of the *Trochilus colubris* of Linnæus. These perhaps inhabit more to the southward, and spread northward as the season advances; because we saw none at first, though near the time of our departure the natives brought them to the ships in great numbers.”

Although found in the cold and inhospitable region here indicated, yet there is no doubt that, as Captain Cook supposed, the bird ranges far to the south: our naturalist Swainson mentions that he has received specimens from Real del Monte. In a work, entitled “The Northern Zoology,” this bird is thus accurately described:—“General tint of the upper plumage rufous or cinnamon, which covers the head, ears, neck, back, upper tail covers, and margins of the tail feathers; the crown and the wing covers, however, have a strong coppery greenish gloss, but which does not extend to the ears, the upper line above the eye, or to that between the eye and the bill; the greater and lesser quills and the middle of the tail feathers, with these tips, are all of a pale smoky brown, slightly glossed with violet. Under plumage—the whole of the chin and throat is covered with scale-like feathers of a fine colour and lustre, equally brilliant with the throat of *T. moschatus*, (see Plate IV,) but with more of a red and less of an orange glow; the tints however change in almost every direction of light, and in all are exquisitely splendid. The middle of the breast and under part of the body is pure white, but all the sides and the under tail covers are of the same colour as the



I. Ruff-necked Hummingbird.

back. Legs and feet dark brown. The female differs chiefly in being green gold where the male is cinnamon, the throat being merely spotted with the glowing ruby colour of the male."

The tail of this species is somewhat wedge-shaped; the bill long and slender: the whole form is extremely elegant. It is one of a genus of Humming Birds, including several magnificent species, which have gorgets consisting of large scaly feathers of intense metallic lustre: they have been called by Lesson *Les Rubris*—the Rubies. Perhaps one of the most brilliant of Humming Birds is that dedicated by Lesson to Mr. Gould, (*T. Gouldii*,) a perfect piece of feathered jewelry, all rubies, pearls, and emeralds. An uncoloured representation of it will be found in our Introduction.—See page xiii.

Of this exquisite little species the following description is given in "Martin's General History of the Trochilidæ:"—"Its snow-white throat fans, every feather being tipped with a rounded spot of emerald green, its fiery-brown crest, its scaly gorget of metallic green, its golden green upper surface, crossed on the lower part of the back with a white band, its narrow falcated wings, and its diminutive size, combine to throw a charm around it, fixing the gazer by a spell which we would not willingly break." The author adds, and all must agree with him, that "It was a just compliment to Mr. Gould, that this bird should bear his name as its specific appellation."

We may as well add to this information that it belongs to the genus *Lophornis*, in which we find many charming crested and ruff-necked little birds, which Lesson calls *Les Coquets*, that is, those who court admiration—the *Selasphoræ*.

MANGO.

PLATE VIII.—FIG. 2.

Trochilus mango, so called, probably, because it frequents a kind of fruit-tree, named the mango, which abounds in the East and West Indies, all through the latter of which Islands this species is very common. It is also found in Brazil and Guiana, and other parts of South America. It is a hardy bird, and has been brought alive to this country. Many descriptions have been given of it under various names, owing to the difference in the appearance in the young and old birds. When fully grown its length is about four inches and a quarter; the head, neck, fore part of the back, and sides, are of a golden green, with bright reflections playing about the crown and forehead; from the chin to the hinder part near the tail runs a stripe of rich velvety black, which is shaded off into slaty blue, that spreads over the throat, and up the sides of the breast and belly; there is a broad band of white passing round the body just above the insertion of the tail, the feathers of which are very broad and round at the tips; on the outer sides these feathers are golden green with blue reflections, and beneath they are violet or purple, according to the light in which they are viewed; they are also tipped and edged with deeper shades of the same colours; the bill is long and slightly curved downwards. The young, which are variously alluded to as *Trochilus margaritaceus*, or pearly; *gularis*, or green-throated; and *maculatus*, or spotted, have more white about the under parts, and less of the deep rich violet colouring which gives to the adult, that is, grown birds, so splendid an appearance.

The Negroes of St. Domingo call this the Doctor Bird, on account of the dark shades which prevail in its plumage offering a strong contrast to the gayer and more brilliant *Trochilidae*, with which they were acquainted.

The following passages illustrative of the habits of this species are from Mr. Gosse's splendid work on the Birds of Jamaica:— “It affects the lowlands in preference to the mountains, and open places rather than the deep woods; yet it is rarely seen to suck the blossoms of herbs or shrubs, as *Trochilus humilis* does, but, like *Polytmus*, (Long-tailed Humming Bird,) hovers around

blossoming trees. The bunch of blossoms at the summit of the pole-like Papaw-tree, (*Carica Papaya*,) is a favourite resort of this species, particularly at sunset. This habit I observed, and took advantage of very soon after my arrival; for there was a fine male Papaw-tree in profuse bloom close to the door at Bluefields, which the Mango frequented. * * *

The pugnacity of Humming Birds has often been spoken of; two of the same species can rarely suck flowers from the same bush without a rencontre. Mango, however, will even drive away another species, which I have never observed the others to do. I once witnessed a combat between two of the present species, which was prosecuted with much pertinacity, and protracted to an unusual length. It was in the month of April, when I was spending a few days at Phœnix Park, near Savanne le Mer. In the garden were two trees of the kind called the Malay Apple, (*Eugenia Malacensis*,) one of which was but a yard or two from my window. The genial influence of the spring rains had covered them with a profusion of beautiful blossoms, each consisting of a multitude of crimson stamens, with very minute petals, like bunches of crimson tassels; but the leaf buds were just beginning to open. A Mango Humming Bird had every day, and all day long, been paying his devoirs (addresses) to these charming blossoms. On the morning to which I allude another came, and the manœuvres of these two tiny creatures became highly interesting. They chased each other through the labyrinth of twigs and flowers, till an opportunity occurred when one would dart with fury upon the other, and then, with a loud rustling of their wings, they would twirl together round and round until they nearly came to the earth. It was some time before I could see with any distinctness what took place in these tussels; their twirlings were so rapid as to baffle all attempts at discrimination. At length an encounter took place pretty close to me, and I perceived that the beak of one grasped the beak of the other, and thus fastened, both whirled round and round in their perpendicular descent, the point of contact being the centre of the gyrations, (twirlings,) till, when another second would have brought them both to the ground, they separated, and the one chased the other for about a hundred yards, and then returned in triumph to the tree, where, perched on a lofty twig, he chirped monotonously and

pertinaciously (in one tone, and continuously,) for some time, I could not help thinking, in defiance. In a few minutes, however, the banished one returned, and began chirping no less provokingly, which soon brought another chase and another tussel.

I am persuaded that these were hostile encounters, (both were adult males,) for one seemed evidently afraid of the other, though his high spirit would prompt a chirp of defiance; and when resting after a battle I noticed that this one held his beak open, as if panting. Sometimes they would suspend hostilities to suck a few blossoms, but mutual proximity was sure to bring them on again with the same result. In their tortuous and rapid evolutions, the light from their ruby necks would now and then flash in the sun with gem-like radiance; and as they now and then hovered motionless, the broadly-expanded tail, whose outer feathers are crimson purple, but when intercepting the sun's rays, transmit orange-coloured light, added much to their beauty.

A little Banana Quit, (a species of creeper or *certhea*, which hops among the flowers and probes them, clinging in all positions,) that was peeping among the blossoms in his own quiet way, seemed now and then to look with surprise on the combatants; but when one had driven his rival to a longer distance than usual, the victor set upon the unoffending Quit, who soon yielded the point, and retired humbly enough to a neighbouring tree. The war, for it was a thorough campaign, a succession of battles, lasted fully an hour, and then I was called away from my post of observation."

This is, we believe, the only species of Humming Bird which has been brought alive to England. Latham relates that a female, with her nest and eggs, was taken by cutting off the twig on which she sat, and brought on board a ship about to sail from Jamaica. "The bird became sufficiently tame to suffer herself to be fed on honey and water during the passage, and hatched two young ones. The mother, however, did not long survive, but the young were brought to England, and continued some time in the possession of Lady Hammond. The little creatures readily took honey from the lips of their mistress, and though one did not live long, the other survived at least two months from the time of their arrival."

MY HUMMING BIRDS.

BY C. W. WEBBER.

As a child, I always had a passion for the Humming Bird. It ever caused a thrill of delight when one of these glittering creatures, with its soft hum of flight, came out of repose all suddenly—hanging, a sapphire stilled upon air—for here no wings are seen—as, like a quick, bright thought, it darts, is still, and then away!

The mystery of “whence it cometh, and whither it goeth,” was a lovely and exciting one to me. How and where could a thing so delicate live in a wintry world like this? How could the glory of its burnished plumes remain undimmed, that it thus shot forth arrows of light into my eyes, while all other things seemed slowly fading? Where could it renew its splendours. In what far bath of gems dissolved, dipping, come forth mailed in its varied shine? How could those tiny wings, whose soul-like motion no mortal eye can follow, bear the frail sprite through beating tempests that are hurling the Albatross, with mighty pinions, prone upon the wave; or that dash the Sea-Eagle, shrieking, against its eyrie-cliff? How speeds it straight and safe—the gem-arrow of the elfs?

Could it be that the tiny birds lived only on the nectar of flowers? It seemed, surely, the fitting food for beauty so ethereal. But then, it removed them so far from things of the earth, earthy,—their home must surely be fairyland, and they coursers of the wind for *Ariel* to “put a girdle round the earth,” if this be so. But, if there be no fairies, and these be only natural forces that propel it so, is nectar, or ambrosia even, food of the substance that could give the steely toughness to those hair-spring thews, whose sharp stroke cuts a resistless way through hurricanes?

These, and a thousand such questions, thronged upon me in those innocent times, but my most eager and continued inquiries were—How did they come? Were they born so, all bright and ready; or did they come like other birds? I could find other birds’ nests and eggs, and I understood how they came; but I never could find a Humming Bird’s nest. Nor could I find any one else who ever had found one. Many’s the hour I have fruitlessly spent in watching them wherever I could trace their flight about the gardens—for, in my simplicity, I supposed it impossible that they could have their nests anywhere but amidst the flowers—but this,

along with other poetical dreams, found the fact a more practical and wiser thing.

Years passed away, leaving me still unwearied, though my continued want of success might have made me what the world calls wiser. In the meantime I had, in poring over the time-stained volumes of the famous old "Port-folio"—certainly the first, if not the ablest of American periodicals of the class—come across a most charmingly told account of the entire domestication of a family of Humming Birds, by a gentleman of New England, who managed to keep them for two years in his large conservatory. He had, by the merest accident, discovered the nest in a very large and heavy woodbine honeysuckle, which hung over the window of his sitting-room, and the idea at once occurred to him of gradually enticing the old birds into the room, which opened into the conservatory, and then transferring thither the nest with the young. The plan, after a great deal of patient dexterity, succeeded, and this lovely little family became his inmates and friends along with the flowers. The relation of this gentleman was sufficiently pleasing to enchant me—but there was not enough of the naturalist in it to satisfy me. We had great honey-suckles too; why did they not build there as well? Hundreds of times I had searched their intricacies with patient zeal, twig by twig, tendril by tendril; and this for years—yet there were hundreds around me all day! There was something in this I did not understand.

At last, in the work of a French Naturalist of note, M. Vaillant, I found the hint, that many of the smaller tropical birds, among them the Hummers, invariably built their nests, where the locality of feeding-grounds rendered it possible for them to make such a selection, upon the pensile limbs of those trees that hung far over running water, as their most dreaded enemies, the monkeys and snakes, were both very cautious of venturing out upon such insecure foothold to rob. This hint I accordingly treasured, and literally haunted the brooks, the creek and river sides in the spring months, watching with the ceaseless hope of catching one of the birds in the act of alighting on its nest, which I knew was my only chance. Still, I found no success for years; but I had gained one piece of information, namely, that at eleven o'clock a.m., and five p.m., if I stood still for a short time, I would see them go darting past directly over the middle of the channel. This might lead to something or it might not, it was worth remembering at least.

Now came the whirl of the youth's first ambitious struggles for excellence and success among his fellows. Bird-nesting gave way to Euclid, and idle strollings through the scented woods to

scanning the Bucolics. For a long time my gentle playmates of the sun and flowers gave way to black-letter folios and smoky lamp-light. I thought I had almost forgotten those once beloved children of the free life; but no sooner had I returned among them with some leisure on my hands, than my old love returned—my old passion broke forth once more with a deeper and widening enthusiasm. Every living thing came to me now with lives that bore a higher meaning, gleams of which were beginning to visit me.

It was no longer as an idle boy, or a sportsman merely, that I went forth into nature—it was as a naturalist in earnest for *facts!* The Principia had cured me of romance, and I was wild for demonstration.

An accident about this time attracted my attention to Humming Birds in particular again. Entering the library one morning, I saw, to my delight, a Humming Bird fluttering against the upper part of a window, the lower sash of which was raised. I advanced softly, but rapidly as possible, and let down the sash. I had been taught the necessity of such caution long ago, by a bitter experience, for out of more than a dozen I had attempted to catch in this very room—to which they were enticed by the vases of flowers within—I had not succeeded in keeping one alive beyond a moment or two after I had seized it; for, if startled too suddenly, ere there had been time enough for to realise the deception of the glass, they invariably flew against it with such violence as to kill themselves; thus my childish eagerness had always robbed me of what I most coveted, although it seemed already mine.

This time, however, I succeeded in securing an uninjured captive, which, to my inexpressible delight, proved to be one of the Ruby-throated species—the most splendid and diminutive that comes north of Florida. It immediately suggested itself to me that a mixture of two parts refined loaf sugar, with one of fine honey, in ten of water, would make about the nearest approach to the nectar of flowers. While my sister ran to prepare it, I gradually opened my hand to look at my prisoner, and saw to my no little amusement as well as surprise, that it was actually “playing possum”—feining to be dead most skilfully! It lay on my open palm motionless for some minutes, during which I watched it in breathless curiosity. I saw it gradually open its bright little eyes to peep whether the way was clear, and then close them slowly as it caught my eye upon it; but when the manufactured nectar came, and a drop was touched gently to the point of its bill, it came to life very suddenly, and in a moment was on its legs, drinking with eager gusto of the refreshing draught from a silver tea-spoon. When sated, it refused to take

more, and sat perched with the coolest self-composure on my finger, and plumed itself quite as artistically as if on its favourite spray. I was enchanted with the bold, innocent confidence with which it turned up its keen black eye to survey us, as much as to say, "Well, good folk—who are you?"

Thus, in less than an hour, this apparently tameless rider of the winds, was perched, pleasantly chirping upon my finger, and received its food with edifying eagerness from my sister's hand. It seemed completely domesticated from the moment that a taste of its natural food reassured it, and left no room to doubt our being friends.

By the next day, it would come from any part of either room—alight upon the side of a white china cup, containing the mixture, and drink eagerly with its long bill thrust in to the very base, after the manner of the doves. It would alight on our fingers, and seem to talk with us, endearingly, in its soft chirps. Indeed, I never saw any creature so thoroughly tamed in so short a time before. This state of things continued some three weeks, when I observed it beginning to lose its vivacity. I resorted to every expedient I could think of; offered it small insects, etc., but with no avail; it would not touch them.

We at length came to the melancholy conclusion that we must either resign ourselves to see it die, or let it go. This last alternative cost my sister some bitter tears. We had made a delicate little cage for it, and had accustomed it to roosting and feeding in it while loose in the rooms, and I consoled her with the hope that perhaps it might return to the cage as usual, even when hung in the garden. The experiment was tried. The cage was hung in a lilac bush, and the moment the door was opened, the little fellow darted away out of sight. My heart sank within me, for I could not but fear that it was gone for ever, and my poor sister sobbed aloud. I comforted her as best I might, and though without any hope myself, endeavoured to fill her with it, and divert her grief by occupation. So we prepared a nice new cup of *our* nectar—hung the cage with flowers—left the door wide open, and the white cup invitingly conspicuous—then resting from our labours, withdrew a short distance to the foot of a tree, to watch the result. We waited for a whole hour with straining eyes, and becoming completely discouraged, had arisen from the grass, and were turning to go, when my sister uttered a low exclamation—

"Whist! look brother!"

The little fellow was darting to and fro in front of his cage, as if confused for a moment by the flower-drapery; but the white cup seemed to overcome his doubts very quickly, and with flut-

tering hearts we saw him settle upon the cup as of old, and while he drank, we rushed lightly forward on tiptoe to secure him.

We were quite rebuked for our want of faith when the charming creature, after deliberately finishing its draught, looked up into our flurried faces with the quietest expression of inquiry. I almost heard it ask in a patronizing way—"Why, what's the matter, good people?"

I felt so much ashamed, that I immediately threw open the door again and let him have the rest of the day to himself; but as I observed him playing with some of the wild birds, I concluded to shut him up for a week or two longer, when he returned as usual, to roost that night. While out it had evidently found the restorative for which it had been pining, and what that might be I now determined, if possible, to discover. The necessity of having a pair of the young birds that I might be enabled to study their habits more effectually, became now more fully apparent; for I knew however tame our bird might be now, that if it happened to meet with its old mate, or a new one, it would be sure to desert us, as a matter of course. Young ones, raised by myself, I could trust.

Chance favoured me somewhat strangely about this time. I had been out squirrel shooting early one sweltering hot morning, and on my return had thrown myself beneath the shade of a thick hickory, near the bank of a creek. I lay on my back, looking listlessly out across the stream, when the chirp of the Humming Bird and its darting form reached my senses at the same instant. I was sure I saw it light upon the limb of a small iron-wood tree, that happened to be exactly in the line of my vision at that instant. This tree leaned over the water a considerable distance. I thought of Le Vaillant and watched steadily. In about five minutes another chirp, and another bird darted in. I saw this one drop upon what seemed to be a knot on an angle of the limb. I heard the soft chirping of greeting and love: I could scarcely contain myself for joy. I would have given anything in the world to have dared to scream "I've got you! I've got you at last!" By a great struggle I choked down my ecstasy and kept still. One of them now flew away; and after waiting fifteen minutes, that seemed a week, I rose, and with my eye steadily fixed upon that important limb, I walked slowly down the bank, without of course, seeing where I placed my feet. But the highest hopes are sometimes doomed to fall, and a fall mine took with a vengeance! I caught my foot in a root, and tumbled head foremost down the bank into the water! I suppose such a ducking would have cooled the enthusiasm of most bird-

nesters; but it only exasperated mine: I shook off the water and vowed I'd find that nest if it took me a week; but how to begin was the question. I had lost the limb, and how was I to find it among a hundred others just like it.

The knot I had seen was so exactly like other knots, upon other limbs all around it, that the prospect of finding it seemed a hopeless one. But "I'll try, sir!" is my favourite motto. I laid myself down as nearly as possible in the position I originally occupied; but after some twenty minutes experiment, came to the conclusion that my head had been too much confused by the shock of my fall and ducking, for me to hope to make much out of this method. Then I went under the tree, and commencing at the trunk with the lowest limb, which leaned over the water, I followed it slowly and carefully with my eye out to the extremest twig, noting carefully everything that seemed like a knot. This produced no satisfactory result after half an hour's trial, and with an aching neck I gave it up in despair, for I saw half a dozen knots, either one of which seemed as likely to be the right one as the other. I now changed my tactics again, and, ascending the tree, I stopped with my feet upon each one of these limbs, and looked *down* along its length. It was a very tedious proceeding, but I persevered. Knot after knot deceived me, but at last, when just above the middle of the tree, I caught a sharp gleam among the leaves, of gold and purple, and looking down upon the last limb to which I had climbed—almost lost my footing for the joy—when I saw about three feet out from where I stood, the glistening back and wings of the little bird just covering the top of one of those mysterious knots—that was about the size of half a hen's egg. Its glancing head, long bill, and keen eyes, were turned upwards and perfectly still, except the latter, which surveyed me from head to foot with the most dauntless expression. It seemed to have not the slightest intention of moving, and I would not have disturbed it for the world. It was sufficient delight to me to gaze on my long-sought treasure. Its pure white breast—or throat, rather—for the breast was sunk in the nest—formed such a sweet and innocent contrast with the splendour of its back, head, and wings! This is the most common variety with us, and is about a size larger than the Scarlet-throat.* I could see that this wonderful little creature had not

* I am aware that our naturalists do not recognise the Green Humming Bird, with the white breast and throat, as any other than the young or female of the Scarlet-throated Hummer—the male of which variety does not attain its full plumage until the second year. I, however, beg leave to suggest the existence, as a separate and distinct variety of the Green Humming Bird, and hope to offer sufficient evidence of the fact, before this paper is finished, to justify the hazard of such an assertion.

only formed the outside of its nest to correspond in shape and size exactly with the natural knots on other limbs—but had so skilfully covered the outside with the same kind of moss which grew upon them, that no eye, however practised, could have discovered the deception from beneath. Having gratified my curiosity as far as prudent, without running the risk of driving her from the nest, I descended cautiously, and ran home with the news: and great was the joy thereat between my little playmate and myself.

Now came the anxious time for us; we were dying to get a sight of the eggs, and yet afraid to disturb the birds. I conquered this difficulty at last by patience. I found, after watching for several mornings, that they both left the nest on warm days about noon, and were gone sometimes nearly an hour. We took this opportunity, and having climbed up first, so as to shew her, my sister followed—the girls *used* to climb like squirrels, in Kentucky, in my young days!—and many were the expressions of childish delight, as she peeped over and saw those three little eggs—about the size of black-eyed peas—lying like snowy pearls, (if *not* diamonds, as I used to expect,) embedded in a fairy case, all lined with cygnet-down, or the delicate floss of elfin-hair. We did not touch, or even breathe on it, and descended quickly, lest the old birds should find us there.

I was unexpectedly compelled to leave home about this time, and my sister promised that she would not disturb the nest till my return. After an unexpected detention of three weeks I got back, and the first thing the next morning we were on our way, with many misgivings, to visit our treasures. I climbed the tree, and to my infinite astonishment, two birds entirely filled the nest, and in such full size and perfect plumage, that I thought I must have come too late, and that these were the old ones. They looked at me as boldly as I have seen young eagles look unflinchingly on the intruder into their eyrie. I determined to attempt the capture, at any rate, and reached my hand towards them with a gradual and almost imperceptible movement. They watched its approach with no sign of fear, and when I had approached it within an inch, one of them boldly pecked at it as it descended, gently covering them as they sat. I shouted for joy.

"I have them! I have them!" and then *such* dancing and clapping of hands as there was below.

"Hurry! hurry, brother! I want to see them. I want to see! I want to see!"

For a wonder I got down without breaking my neck. I had, with slight violence, taken the nest with the birds from the limb entire. They made not the slightest effort to escape, nor did they seem in the least frightened. We hurried away, lest we should

witness the sufferings of the bereaved pair, whom we had thus ruthlessly robbed of home and young.

The first thing on reaching the house with our captives, was to try our nectar, of the home-made manufacture, upon the young strangers, who instantly paid us the compliment of recognising its merits in a hearty draught, which seemed to set them perfectly at ease with the world and with themselves. They now left the nest, and perched upon our fingers with the most lovely confidence, and we saw that they were actually full-plumed—though I doubt if they had yet attempted to use their wings abroad. They seemed to take the sudden change in their surroundings with a most consummate people-of-the-world sort of air; just as if they had been taught to consider it as ungenteel to look surprised or startled at anything, or to exhibit more than a very cool sort of curiosity.

We were greatly amused at these aristocratic airs, and were ourselves very curious to know what might chance to be the titles of our noble friends in their own principality of air. Much as they made of themselves, I thought our Ruby-throat received them with a certain degree of hauteur, which was responded to with the most supercilious indifference, at all consistent with perfect good breeding. A few days, however, sufficed to break down the icy crust of formality, and they began to appear most guardedly aware of each other's existence. In a few weeks we hung the cage out with open doors again—finding that all the birds were beginning to mope and look as if they were going to die, as had been the case with the Ruby-breast several times before. He had always been relieved by letting him out; but as he instantly disappeared, we could not discover what the antidote he sought might be. When we opened the cage this time, it was a bright summer morning, just after sunrise. What was our surprise to see the Ruby-throat, instead of darting away as usual, remain with the young ones, which had immediately sought sprays, as if feeling a little uncertain what to do with themselves. Scarlet flew round and round them; then he would dart off to a little distance in the garden, and suspend himself on the wing for an instant, before what I at first could not perceive to be anything more than two bare twigs; then he would return and fly around them again, as if to show them how easy it was.

The bold little fellows did not require long persuasion, but were soon launched on air again, and in a moment or so were using their wings—for all we could see—with about as much confidence and ease as Mr. Ruby-throat. They soon commenced the same manœuvres among the shrubbery, and as there were no flowers there, we were sadly puzzled to think what it was they were dipping at so eagerly, to the utter neglect of the many flowers, not one

of which they appeared to notice. We moved closer to watch them to better advantage, and in doing so, changed our relative position to the sun. At once the thing was revealed to me. I caught friend Ruby in the very act of abstracting a small spider, with the point of his long beak, from the centre of one of those beautiful circular webs of the garden spider, that so abounds throughout the South. The thing was done so daintily that he did not stir the dew-drops which, now glittering in the golden sun, revealed the gossamer tracery all diamond-strung.

"Hah! we've got your secret, my friends!—Hah! ha, hah!"

And we clapped and danced in triumph. Our presence did not disturb them in the least, and we watched them catching spiders for half an hour. They frequently came within two feet of our faces, and we could distinctly see them pluck the little spider from the centre of its wheel, where it lies, and swallow it entire. After this we let them out daily, and, although we watched them closely, and with the most patient care, we never could see them touch the spiders again, until the usual interval of about a fortnight had elapsed, when they attacked them again as vigorously as ever—but the foray of one morning seemed to suffice. We also observed them carefully, to ascertain whether they ate any other insects than these spiders; but, although we brought them every variety of the smallest and most tender that we could find, they did not notice them at all; but if we shut them up past the time, until they began to look drooping, and then bring one of those little spiders along with other small insects, they would snap up the spider soon enough, but pay no attention to the others. We were thoroughly convinced, after careful experiment upon two families of them, that they neither live entirely upon the nectar of flowers—as all the old naturalists supposed—nor upon *various* small insects in addition to the nectar, as Mr. Audubon asserts. The fact is, they can no more live beyond a certain time—about a fortnight—upon nectar alone, than they can upon air alone, nor do I believe that life could be preserved beyond a few days upon spiders alone.

There is another rather curious observation we made, that so long as the white cup was not dry, for so long they did not descend to notice the thousands of flowers by which they were surrounded. We used to starve them a little sometimes for fun, and we then would have to hide, for they would make *such* a noise if we appeared!—flying close to our faces, pecking gently at our teeth and eyes, lighting on our hair and pecking at it, or on our shoulders pulling at it—until, sometimes, it was almost difficult to tell whether it was more amusing or annoying. At last they would go away with evident reluctance to the garden, and tear up about

half the flowers they tried, and darting towards us the moment we appeared again with the magical white cup.

Such was the spell it exercised upon them, that when any of our friends, who came visiting us, desired to see them when they were out and perched upon the trees, either of us had only to walk into the yard, and holding up the white cup above our heads, imitate their own chirp to attract their notice, and in an instant one after another would come dipping down from the branches above, and cluster around the brim. After a draught, which was always the first thing, they would sit and plume themselves, stopping every now and then to ask one of the strangers with their steady eyes, so like black diamonds—

“Who are you, pray? What’ll you take?”

Their movements were so like lightning, that though they would let you get your hand near enough for them to peck it, yet it was impossible to catch them. They would let us do it sometimes, but never a stranger.

Now comes the, to me, most interesting portion of this narrative.

Our charming little family remained with us on these pleasing terms until the middle of September, and then, as they began to exhibit the usual restlessness of migratory birds, the sad question of parting had to be met. What we had already seen of them convinced me conclusively that there must have been something of romance in the story that had so enchanted me in the respectable pages of the sage Port-folio, during my fanciful childhood, and which so roundly asserted that the birds had been kept through two winters! Now it is barely possible the said conservatory may have had a due supply of spiders, for of one thing I am very sure—that no Humming Bird could have been kept alive without them, any more than gold-fish could be kept alive in distilled water, in which all the animalculæ, which constitute their natural food, had been destroyed. We came at last to the conclusion that it would be selfish and abominably cruel of us to keep the delicate things with us in the blustering north, to die of pining for the scented bowers of their far sunny home. We let them out, and with many tears saw them dart away at once towards the south, as if they felt they had already tarried too long.

We saw them but for an instant on the air, and our sweet pets were gone!

It took us a long time to reconcile ourselves to the loneliness in which they left us, but our consolation was, that next spring I should find another nest, and they should be Scarlet-throats this time, and we should know better how to take care of them now, as we knew better how to find them from experience. Such a lovely family as we were going to have! We made a new and

elegant house during the winter leisure, in anticipation of the new tenants *that were to be!* In the meantime, as I always had some half dozen different kinds of pets on hand, we found occupation and amusement in taking care of them, and occasionally adding to the stock. This, together with the winter hunting, trapping, and books, gave swift wings to the hours for me. Winter broke up—spring came with its tender wild flowers and fickle smiles. Spring is the time for poetry—when one is yet in the teens—and I had fallen into a dreamy mood, in which I was permitting the spring to go by without noting its flight, when I was suddenly roused one May morning by a most curious and unexpected incident.

I had gone into the garden summer-house with my book as the excuse, but dreaming as usual, without noticing the letters on its pages, when a soft, whirring noise, close to my face, caused me to look up. About one foot from me a Humming Bird, poised so steadily upon the wing, that its body seemed perfectly motionless, looked with its bright, knowing eye fixedly upon mine. It did not move when I lifted my head, and retaining this position for nearly quarter of a minute, with a low chirp darted out and settled on some flowers near to trim its plumes. I started up, while a quick thought sent a thrill of exquisite pleasure and surprise through my whole frame. The bird sat still. I ran with my utmost speed to the house, and catching a glimpse of my sister, cried out to her, almost beside myself with excitement—

"Get the white cup! Get our cup! some honey! some sugar!—here's the water!—quick dear! quick!"

"What is the matter with you, brother?" exclaimed the distracted child, endeavouring at the same time to execute these multifareous orders all at once.

"O, our bird's come back! I saw him just now! Where are the closet keys? O, he's come back to us all the way from South America—the little darling! I thought he couldn't forget us!"

"But, brother, you are mad—how can you tell it from another Humming Bird—I've seen a dozen this spring!"

"O! I know it was one of the young ones—he came in and looked me in the eye ever so long! Do make haste!"

The mixture is completed, and off we run in trembling eagerness—for this test we knew would decide for or against us. We reach the summer-house—the magical white cup is raised before us, it is still sitting on the flower, we give one chirp as of old, and without an instant's hesitation it darts to the cup, alights upon the rim, and plunges its little thirsty bill up to the very eyes in that delicious cup, and takes the longest, deepest draught I ever saw taken before by one of them; and this convinced me that it had just arrived,

and had come straight to its old home for food and love. My sister burst into tears and screams of joyous laughter, and as to what ridiculous capers I might have been guilty of, I cannot tell—I only remember the self-contented and philosophical manner in which the returned pilgrim continued to plume its storm-ruffled feathers, uttering now and then the old chirps on the side of that cup—which position it continued to retain until we bore him on it to his new house, of which he assumed possession with a remarkably matter-of-fact, or rather matter-of-course, air.

About a week after this, while walking in the garden one morning, I observed two Humming Birds engaged in chasing each other in a very coy and loving manner. Something in the tame and confident manner of one of them made me suspect it was our bird engaged in making love. I went back for the white cup, and this time, too, its magic proved itself invincible—for both birds came without hesitation and settled upon the rim—the one which took the long and eager draught, as if perishing of fatigue and hunger, proved to be the female that had just arrived. It was a little larger than the male, and seemed at first somewhat shyer than he, though a few days were sufficient to make all right as ever between us again. How strange and incomprehensible it seemed to us—the acuteness of senses—the strength of memory and affection—the weird sagacity, in a word—that could have brought these tiny creatures back to us, from so many thousand miles away, straight as the arrow from the bow. I have never ceased wondering at that strange incident—but there is one yet quite as droll to come. The love-season had now fully commenced, and our birds began to be absent for several hours together, and we observed that at these times they darted straight up into the air, until they were out of sight before they took their course, so that watch as we might we never could find out which way they went. They also adopted the same precaution in returning, when they seemed to fall perpendicularly from the clouds. They did not appear any the less tame for all this—but, though I tried in every possible way to find out their secret, yet they entirely baffled me, and I am not sure that I ever saw their brood even—though about the time when they ought to have been out, we used to notice more birds than we could well account for around the white cup in the cage; yet, as those strangers appeared to be somewhat shy, we did not press an acquaintance. It was nothing more than conjecture on our part, that these were the new brood of our pets.

But I am getting a little ahead of my story in events. I have mentioned that we had vowed to have a nest of Ruby-throats added to our collection this spring, and in giving a detail of the manner in which I went to work for the accomplishment of this vow, I shall

furnish you some idea of the tedious processes of the practical naturalist. My father had some men at work, "getting out logs," as it is called, on a considerable creek, two miles off. One of them, who knew of my passion for these birds, mentioned to me that he had twice, while watering his horse at a certain crossing in the woods, observed a Humming Bird fly past over the middle of the channel, and up the stream. This, he said, was about five o'clock both times. This was enough for me. I ordered my horse, and in a few moments was under whip and spur—for it was nearly that time now—for this little ford. I reached it a few minutes before five by a bridal path. I sat upon my horse until dusk in the middle of the stream, but no Humming Bird. Next day I came at noon—staid an hour with no avail. I went at four again, and staid until half-past five, but still no bird. I was not discouraged, but as I rode slowly home, determined to change my tactics next day, for I remembered that my impatient horse had been pawing in the water all the time, and this, no doubt, had alarmed the cautious birds, and caused them to change their usual course. Next day I chose my position under some thick overhanging trees, where I could see and not be seen. I did not see them on the morning watch. In the afternoon, precisely at five, the male came by, and I had the satisfaction of seeing that it was a Ruby-throat. I judged from the height at which it flew that the nest was not very far off.

Well, to make a long story short, I came the next day and took my station a hundred and fifty yards farther up the stream—saw them both pass at five, flying, I thought, just a little lower; the next evening I moved still farther up with the same result. The next I did not move so far—for here was a straight stretch of the channel of considerable length, and I could command it with my eye from where I stood. Here I saw them go by, one a few minutes after the other, and observed that their flight was very low: but after they had passed me a short distance, each of them shot suddenly and perpendicularly up into the air, until I lost sight of them. The next evening it was the same thing, and now I was convinced that the nest must be close at hand; that they rose in this sudden manner to make a perpendicular descent which would baffle pursuit from all enemies.

I watched at this place three evenings more, changing my position only a little each time, before I had the satisfaction at last of seeing the female come down, like a falling ærolite from the clouds, and drop upon her nest. I had thus spent more than a whole week in this patient pursuit, and now that it had been crowned with success, I wheeled my horse, and with an indescribable feeling of both pride and joy, galloped home with the news to my sister. I had conquered one of the stubbornest secrets of nature—not this time

by accident, but by science and perseverance. I was proud of it, and so was she. At the proper time I brought the young birds home in triumph. There were only two, though, as in the other instance, there had been three eggs. This curious fact is common to several families of birds, and seems to be a provision against accident, though I believe the third egg is seldom permitted to hatch.

We had now two families which seemed to get along together very amicably. The male of the Ruby-throats was easily distinguishable by the dark feathers on the throat, which marked the place where, on his next moulting, that breast-plate of glittering mail should appear, blazing like a talisman of carbuncle. We were greatly distressed that we should have to run all the risks of their problematic return in the following spring before we should be enabled to solace our eyes in the enjoyment of this coveted treasure.

We now frequently captured old birds in the library, and never failed in taming them entirely in a few days. At one time our family consisted of six, and we had but to walk out with the white cup, and sound the gathering chirp, and one after another the whole of them came skimming down from the trees in all directions, to alight upon its rim, or upon us if they were not hungry.

The novelty of such pets attracted great attention; and we had many visitors; and the fair young girls plead hard with me to give them one—but I could never consent to trust my delicate people in unaccustomed hands, except in a single instance, in which the fair pleader bewitched me with eyes so like those of the bird, that I gave her one of the old ones, and heard to my sorrow that it died in a week.

Our lovely family broke up with the autumn. One after one, they disappeared suddenly, and we were left alone—alas, this time for ever—none of them ever came back!

Have we been describing creatures of blind and fated impulse—machines without volition, propelled, like any other arrangement of springs and wheels, by elemental forces, on through a certain and fixed round of action, over which they have no control,—or have we told the history of beings possessing memory in common with man—gratitude, whether in common with him or not—faith, affection, bravery—a small touch of the loafer, as witness in their affection for the white cup, with its brimming bowl, in preference to the meagre and bee-rifled chalices of flowers—a remarkable degree of caution in hiding their nests—of cunning in going to and from them—of mechanical and artistic skill in constructing their wonderful homes—of judgment in placing them over the water—of sagacity in using their acute senses to guide them back and forth on their two long yearly pilgrimages? These are questions the learned will have to meet one day!

I ventured to suggest, in the first part of this article, that the Scarlet, or Ruby-throated Humming Bird has been confounded with another variety, which I have named the Green, or Green-backed Humming Bird. They are both very common north of Florida, and indeed the Ruby-throat is said to be the only variety which visits us at the North. The Green Humming Bird resembles the old female of the Ruby-throated bird, or Scarlet-throat, as we have called it from the predominance of that blazing hue in the changing splendours of its throat! The Green birds resemble also the young female of the Ruby-throat—and hence the confusion. The points of distinction, however, are clear enough, when the attention has been once attracted toward noting them. The two families of my pets belonged to the two varieties, and, therefore, I had ample opportunity of careful comparison. The female of all Humming Birds is the largest;—well, in the matter of size I found the difference to be this—the female of the Ruby-throat is of the same size with the male of the Green—while the female of the Green is nearly one-third larger. The throat of the male of the Green is always a pure, clear white, while the plumage of the back is a darker and more resplendent green. The throat of the Ruby during the first year is distinctly marked a greyish blue over that portion which, at the next moulting, assumes its splendid colours.

There is no possibility of mistaking the males of the two in the nest or out of it. The bill of the Green is much longer and coarser; as are its shape, plumage, and colour, than the Ruby, which is one of the most fairy-like and graceful of all the Hummers. Their habits do not seem to differ in any very essential particulars, but no observer, however careless, can fail to see the marked differences between the two varieties when compared together, either on the wing or perched. The flight of the Green is the more heavy and slow, and it seems to possess less of spirit and boldness than the other. The pair that returned to me the next spring were Green Humming Birds, and the male of this pair never exhibited either the bluish blotch on the throat, which the Ruby has when it comes from the nest; nor was there any change perceptible in the plumage at all, except that the white of the throat and breast had become a purer white, and the green of the back darker, more variable and brilliant. The nest, too, is larger by nearly one-third, and less elegantly finished than that of the Ruby. So marked is the difference between the two varieties, that I can easily point them out on the wing in our gardens, although not only all our American naturalists have classed them as one species, but the great mass of interested observers are not yet aware of the differences.

Now that attention has once been called to the facts, they are promptly enough seen and recognised. Mr. Audubon gives us four

Humming Birds, north of Texas—the Ruby-throated, the Mangrove, the Anna, and the Ruffled. To this enumeration I venture to add a fifth, the Common, or Green Humming Bird, and it is not a little singular that this species, which of all the rest is most universally diffused, should yet have not been named before. Of the three last named above, the first belongs to Florida, the other two to the Pacific coast.

THAT Humming Birds consume a great quantity of insect food, we are assured on the authority of all who have watched their movements and habits. Mr. Goss, who relates many interesting experiments which he made, in reference to the possibility of keeping them in confinement, thinks that by each of those which he had in a room, and which he also fed on syrup, there were taken at a low estimate three insects per minute, and that with few intervals, incessantly from dawn to dusk. He does not suppose that the bird in a state of freedom takes so many in the air, inasmuch as the blossoms afford it an ample supply, at the same time they are perpetually seen *hawking* in the air.

The above calculation, granting to the bird a minute's rest after each pursuit, would give ninety flies per hour, or five hundred and forty in six hours; and this would bear out the assertion of a distinguished ornithologist, that Humming Birds "eat their own weight of insects daily."

INDEX OF SPECIES

FIGURED AND DESCRIBED IN THIS VOLUME.

	PAGE.
INTRODUCTION	iv
Azure-crowned	29
White-eared	30
Double-crested	31
Violet-eared	32
Tufted-necked	32
Delalande's	34
Ruby-crested	35
Northern, or Ruby-throated	36
Blue-throated	44
Amethystine	45
Dupont's	46
Racket-tailed	47
Pigmy	48
Gigantic	49
Ruff-necked	50
Mango	52
My Humming Birds. By C. W. Webber	55

YOUNG NATURALIST'S LIBRARY.

EDITED BY H. G. ADAMS.

- 1.—THE NESTS AND EGGS OF FAMILIAR BRITISH BIRDS. With Eight Plates containing Forty-eight Figures of Eggs, Coloured from Nature. Price 1s.
 - 2.—SECOND SERIES OF NESTS AND EGGS. With Eight Plates. Price 1s.
 - 3.—BEAUTIFUL BUTTERFLIES. Containing the History of a Butterfly, through all its changes and transformations. With Eight Coloured Plates. Price 1s.
 - 4.—BEAUTIFUL SHELLS, their Nature, Structure, and Uses familiarly explained. With Eight Coloured Plates, and numerous Wood Engravings. Price 1s.
 - 5.—HUMMING BIRDS Described and Illustrated, with an Introductory Sketch on their Structure and Plumage. With Eight Coloured Plates. Price 1s.
-

Imperial 16mo, cloth, gilt edges, with 31 Coloured Plates, price 3s. 6d.,

SCRIPTURE QUADRUPEDS,

Containing a Description of the Animals mentioned in the Bible.

Imperial 16mo, cloth, gilt edges, with 31 Coloured Plates, price 3s. 6d.,

SCRIPTURE BIRDS,

Containing a Description of the Birds mentioned in the Bible.

PICTURES FROM ROBINSON CRUSOE.

In Illuminated Wrapper, price 1s., containing Twelve beautiful Plates Printed in Colours.

PICTURES OF MY PETS.

In Illuminated Wrapper, price 1s., containing Twelve beautiful Plates Printed in Colours.

PICTURE PORTFOLIOS.

BEAUTIFUL BIRDS, with Eight Coloured Plates. Price 1s. 6d.

WONDERFUL INSECTS, with Eight Coloured Plates. Price 1s. 6d.

COMPARATIVE SIZES OF BIRDS, with Eight Coloured Plates. Price 1s. 6d.

LONDON: GROOMBRIDGE AND SONS.





39088009903709

YOUNG
LIBRARY

B12